The Builder.

VOL. XX.—No. 1001.

*More from Rome.**

IF we follow the guidance of Flavio Biondo, we become more and more amazed at the contrast between the state of Rome's ruins as described by him, and their present condition; telling a mournful tale of demolition's unchecked progress during the four centuries since he wrote. We thread the labyrinthian streets, between the piazza of the Pantheon and the picturesquely-irregular old market-place of the Piazza Navona, without seeing any trace of the vast remains he speaks of, in a series of vaulted halls left by the thermæ of Alexander Severus; nor, turning to the purlieus of the Corso, do we find one remnant of the extensive ruins he refers to Domitian's Thermæ around the great convent of St. Silvestro, now a French barrack. On the opposite—the western—side of that street, we alike fail to discover the arcades and "immense substructures" still visible in his time; though a stately palace had been built over them by a cardinal, in the year 1300. At the highest level of the Quirinal (again mistaken by Biondo for the Esquiline) he calls us to admire the portico and four erect marble statues, with the name *Constantinus* on the base of one; near those noble colossi of Castor and Pollux, removed from their original to their present site, opposite the papal palace, in 1589, as directed by Fontana under Sixtus V.; but of those remains of Constantine's baths which these celebrated sculptures adorned, not one fragment is now visible, unless we descend into the cellars of the Rospigliosi palace; built above the spot, so as to crush or absorb its antiquities, by a Cardinal Borghese, early in the seventeenth century. Two of the statues Biondo mentions,—the Constantines, father and son,—are indeed preserved; and now stand, near the other colossi of Castor and Pollux, on the balustrade above the staircase leading to the Capitol by the approach formed under Paul III. Of the circus and other edifices in the gardens of Sallust, still remain several lofty vaults; extending their ivy-overgrown ruins, part concealed by underwood and vegetation, along the slopes of the Quirinal, within the Barberini vineyard; but insignificant indeed are these shattered piles of brickwork compared with what Biondo describes of "the marvellous and stupendous ruins" reaching from the Porta Pia to the Porta Salara (about half a mile), and as far within the walls as the church of St. Susanna, near Diocletian's Thermæ. Nor on the Esquiline is any longer cast a shadow by the great arcades before St. Pietro in Vincoli, which this antiquary erroneously supposed to be the Curiæ Veteres, in reality situate, where Nibby identifies their remains, at the oriental base of the Palatine.

Other authorities tell of various monuments, more or less entitled to respect, that were totally swept away from Roman sites before the end of the fifteenth century. Till this period had stood, now destined to disappear, the decorative arch leading to the bridge still called Fabrician (though more commonly, from the four four-headed Hermes', placed on its parapet walls, *ponte quattro capi*), built A. U. C. 733, by the curator Fabritius, to connect the island on the Tiber (St. Bartolommeo) with the river's eastern bank; of which no record was known to exist till a notice referring to this arch had been brought to light by the Chev. di Rossi, out of a forgotten MS. at the Magliabecchiana library, in Florence. And from the same document was first made known to modern readers by that gentleman, the triumphal arch on the Flaminian circus; a work of republican origin; restored in marble under the Empire; that stood in its place till demolished in this fatal fifteenth century. What must have been the licentious excess of the destroying mania when such outrages against *sacred* monuments could occur in this Catholic metropolis as to call for the bull from Sixtus IV. (1477); to be recorded to that pope's honour, indeed; threatening excommunication against the then frequent offence of despoiling churches; even basilicas; removing their precious marbles, porphyry, &c., for private uses; thenceforth punishable not merely by spiritual penalties, but by a fine of half a gold lira from every offender in each instance. Similar was the edict issued by Cardinal Barberini, vicar of Urban VIII. in 1640, against removing monuments or epitaphs from churches; especially addressed to the clergy and monastic bodies having charge of those very edifices they were, as this document evinces, often culpable for thus maltreating!—(Martinelli, "Roma ex Ethnica Sacra.") Between the bridge of St. Angelo and St. Peter's there rose, till this century, intact, the pyramidal mausoleum, called, by Mediæval ignorance, "memoria Romuli;" and which even Petrarch, in his "Familiar Epistles," admits, unquestioning, to be the veritable tomb of Rome's founder; but for the sake of widening the approach to the great basilica, this too was destined to destruction by Alexander VI.; and we have now only one authentic design of it, in the reliefs on the bronze portals of that church, by Filarete (1441), who introduced this pyramid in the background to the scene of St. Peter's martyrdom. As for the castle of St. Angelo, it has been saved from the total decay to which it was left exposed after the stormy vicissitudes of the tenth century; and after the "Tower of Crescentius" (its then name) had been abandoned by the popes and senators; long defending themselves within its walls; by its second appropriation as a modern fortress and occasionally a papal residence since the time of Boniface IX. (1389—1404); whose additions to its bulwarks were restored on a superior scale by Sangallo, under Alexander VI.; and, finally, the existing fabric of towers rose above its battlements, by command of Paul III. We now see of its antique structure, in the interior, nothing more than a segment of the spacious vaulted corridor that ascended by an inclining plane; along which a chariot might have been driven to the summit, from the ample portal (now walled up); and the quadrangular chamber of sepulture, where sarcophagi stood in the centre, and cinerary urns along a basement around. French permission must be obtained from the general of the troops to see this castle; and the torchlight by which its penetralia are inspected adds much to the romantic horror, picturesquely mysterious, of the stupendous pile in these dark recesses. Besides which we are admitted by the French custode to those horrific dungeons, in the upper part, for whose construction the Borgia must be responsible: the lowered torch enables us to look down into the infernal abysses called *trabocchetti;* and we remember with a shudder the fate of Beatrice Cenci, of Benvenuto Cellini, and the still darker tragedy of which the young Astorre Manfredi was victim here under Alexander VI. Can we consider that an ecclesiastical government invented and used these prison-dens, without seeing in the fact an argument against that "temporal power" now so much descanted on? The frescoes on mythologic and classico-historic subjects, by Pieria del Vaga, in the great hall of the Farnese's pope's addition, are striking, and in good preservation; but those by the same artist, on the vault of another large room, now a soldier's dormitory, seem to have suffered from every sort of maltreatment.

In that fifteenth century was standing, and it seems entire, the mausoleum of Sylla in the Campus Martius, mentioned in the second book of the "Pharsalia":—

> Felix his Sylla vocari,
> His merult tumulum medio sibi tollere campo?

but completely swept away, when perhaps become less conspicuous, about the year 1662, to give place to a paltry church—one of the two with cupolas, and of nearly similar design, that first meet the traveller's gaze on entering Rome by the Porta del Popolo.

We come now to the century of the Medici and Farnese popes; when, certainly, much was effected on a splendid scale to protect and restore, to promote in every way, the interests of art and antiquity. Yet even within this epoch devastation and deplorable change passed over the imposing features of Rome's monuments. There then stood in the Colonna gardens on the Quirinal remains of Aurelian's Temple of the Sun; with pediment, cornices, and porticoes of a front pierced by arched windows; allowing its past magnificence to be appreciated far better than the more fallen, though still, indeed, imposing ruins in those gardens now permit; and the temple of "Jupiter Tragicus" (perhaps a unique dedication), first discovered, at this period, in the vineyard of the St. Lorenzo convent on the height of the Viminal, has since totally disappeared; except, among its remnants of sculpture, two statues; recognized as the comic dramatists Posidippos and Menandros; now in the Vatican; and distinguished by their Greek style, simplicity, and breadth of treatment (*vide* Canina, "Esposizione Topografica"). Most remorseless towards illustrious ruins was the procedure of Sixtus V.; in absolutely carrying away, for the adornment of St. Peter's, with its rich material and marble columns, the whole superb wing added to the Palatine by Septimius Severus; known as the Septizonium; whose site, at the Mount's southern base, is now a neglected plot of garden-ground, with a triangular inclosure of hedges, below the hill, but divided from it by a lane, between the S. Gregorio monastery and the now desolate valley of the Circus Maximus. From Flavio Biondo we learn, indeed, that this edifice was only half preserved, but still with three stories of colonnades, in his time; and the Pantheon, so maltreated by other popes, he finds a fair subject for praises addressed to Eugenius IV., who had repaired its cupola with leaden tiles, and removed the paltry shops thrown up against the pillars of its noble portico.

We must look, however, on the brighter side; and, considering all accomplished by the papal government for the interests of ornamental art in modern times, especially since the return of Pius VII. (1814), acknowledge many claims to gratitude, many efforts to make amends for all past deficiencies. The French usurping authorities, from 1808, had indeed set the first example; which was only followed, in the same track, after the legitimate restoration; the excavations of the Roman Forum, and that of Trajan, having never been efficiently achieved till the Napoleonic government set about that task; hitherto neglected by the papal; though, so early as 1742, some researches had, indeed, been ordered on the Forum (the Roman, to distinguish it from others) which led to the discovery of the Cloaca Maxima, at the depth of 30 feet below the existing level; and in 1775 many buried treasures, buildings, and artistic fragments, were exhumed on the Palatine. The Arch of Constantine had been, where requisite,

* See page 233, *ante*.

restored, and cleared of unsightly incumbrances, by Clement XII., in 1733.

What has been accomplished for archæologic interests under Pius IX. is beyond all we might have expected; considering how his government has suffered from shocks of political disaster. The discovery most valuable, for the light thrown on disputed questions of antique topography, is that effected, under Canina's directions, of the Basilica Julia on the Forum; though of the once splendid edifice remains nothing but a spacious area of marble pavement, raised on four steps; strewn with fragments of architectonic ornament, and with three travertine pilasters still in part standing. Next followed the excavations on the Appian Way; also under Canina's superintendence; begun in the autumn of 1850, and completed in 1853; though a memorial pillar opposite the adjacent church of St. Sebastian gives the previous year as date. From about a mile beyond the tomb of Cecilia Metella the street of mausolea, thus laid open, extends to the foot of the Alban Hill, beyond the eleventh mile from Rome; not more than about 3,000*l.* sterling having been the expenditure for this enterprise; and we now see displayed in all their imposing solemnity of decay those monuments once in great part concealed by soil amidst the most solitary region of the Campagna. Till within the last twenty-five years the Tabularium, of the Consular period, above which stands the modern Capitoline Palace, had not been accessible throughout its interior, being partly used as a debtor's prison; it was reserved for the present Pontificate to apply it to nobler purposes; effect some interesting discoveries of its inner construction, and appropriate the chief corridor within its Doric portico, as a museum of architecture; now containing all the most beautiful fragments found on the Forum, principally from the Temples of Concord and Vespasian. On a raised triangular space external to this consular building, overlooking the Forum, stood the portico and chapels of the twelve *Dii Consenti:* eight Corinthian columns of Carystian marble, partly modern, but with antique capitals and architrave, again rise on this spot; and the cellæ are again ranged in compact masonry behind them; for this sanctuary has been the object of a restoration, completed in 1858, as directed by Visconti, with taste that many have questioned. Four years have passed since were commenced, under that archæologist's superintendence, the excavations at Ostia, suspended in the autumn of 1860, owing to the invasion of the Papal States; but resumed about eighteen months later. The most important discoveries here are a Mythræum (Temple of Mithras), with its altar, and statues of priests; thermæ, and a large court preceded by a vestibule, the pavement of both formed in mosaics; that of the baths also mosaic, distinguished by figures of genii, dolphins, and gladiators in combat; and many sculptures, some in superior style, have been removed from these ruins to Rome. We have before us the report of the Roman Ministry on all noticeable works in the department of Fine Art and Antiquity, effected during 1858; therefore shortly before the period when these states lost that territorial integrity perhaps never to be recovered.

Here we read of restorations in various objects, for the greater part referring to the architecture and paintings in churches, but several for the interests of classic or monumental antiques;—the repair required to preserve from imminent decay the so-called mausoleum of Priscilla, near the beginning of the Appian Way beyond the Porta S. Sebastiano; that of the Etruscan Tomb at Veii, celebrated for its perfect series of paintings; the removal of encumbering bushes and weeds round the ruins of Adrian's Villa, near Tivoli; sundry repairs, as required, of the Clitumnus Temple, and that, believed one of Concord, near Spoleto; similar works at the noble arch called that of Augustus (though mostly of Etruscan origin) that spans a street in Perugia; the demolishing of some mean houses that had concealed a part of the Pantheon, and the restoring of its circular walls, in the segment thus laid open, where barbarously injured for the convenience of the modern mansions propped up against them,—a brickwork similar to the antique being used for this purpose; lastly (and most important), the discovery of the two painted tombs on the Via Latina, two miles beyond the Porta S. Giovanni, where a very extensive Roman villa and the long-buried basilica of St. Stephen had been brought to light, in February, 1858, by the researches on private speculation of Signor Fortunati, an enterprising archæologist;—those mausolea, of the period of the Antonines, containing sarcophagi sculptured with groups of much interest; and, on their ceilings, the most beautiful and complete ancient Roman paintings yet recovered or made known; their subjects from mythology or fabulous story; their execution and design alike admirable.

Recent excavations, on a spot near the Tiber, have been productive of fruits, among which were some sculptures reported by Visconti at the meeting of the Archæologic Academy last week;—three heads in Greek marble, and of a good style,—one a Mercury with the petasus, one a nymph, and the third, a matron, fitted to its figure, found not long afterwards,—a statue 10 palms high, recognized, both by the fashion of head-dress and the artistic treatment, to be of the period between the Flavian emperors and Trajan; therefore the best in Greco-Roman art. The French Government, having obtained casts of all the reliefs on the Column of Trajan, has ordered the preparation of others from those sculptures on the Arch of Constantine, of which was despoiled that of Trajan to adorn the monument of the Christian emperor.

## THE ARCHITECTURAL EXHIBITION.

IT was to be expected that the desirability felt by architects to send illustrations of their works to the International Exhibition, would interfere with the annual exhibition, in Conduit-street; and the matter for wonder is not that there are fewer drawings in the latter than usual, but that there are sufficient to make an exhibition with any interest at all. The preparation of a drawing *fit* for exhibition implies the expenditure, by the architect, of a certain amount of money or of time that is equal to it; in some cases a considerable amount; and the advantages resulting to the man already known and in good practice, are not sufficient to carry him more than a certain distance in that direction.

The amount of art shown in the collection is not large, even with reference to the number of the works exhibited; and some of the drawings might have been retained in the office of the author without loss to the public. It is the duty of the profession to continue to maintain this Exhibition; and we shall hope next year to find a larger number of contributions from the elder members of the profession. The great feature of the present Exhibition, as we have already said, is the collection of sketches and designs by the late A. W. Pugin. These might have been better arranged. They afford a good lesson to all young architects, and should be studied.

Photographs of Pugin's Sketches are to be published, it appears, in bi-monthly parts: at too dear a rate, however, to justify the expectation of any large sale.

To the general Exhibition Mr. E. B. Lamb is probably the largest contributor; sending schools, houses, and churches; all thoughtful, and mostly appropriate. His "Warehouses for the Consignment and Store Company" (No. 40) are almost monumental. Mr. Burges shows his skill in Mediæval figure drawing by photographs of sculpture, executed from his designs. The "Elevation for Town Hall, Hull" (7), and that of "Town Hall, Northampton" (8), now being erected, both by E. W. Godwin, are very similar; being adaptations of that description of Italian-Gothic, involving as a striking feature statues on brackets between the windows, which is just now being reproduced on all sides. We do not say this, however, in disparagement of the architect in question, who has a power of his own. The curious condition of architecture amongst us is shown by the circumstance that the design for the first named Town Hall (Hull), to which the third premium was awarded, exhibited here by Green and De Ville (28), is a full fledged Corinthian building; and the design for the second (Northampton), "to which the first place was awarded by the professional referee" (185, Louis de Ville), is Corinthian and Doric. The fact is, we have not yet an architecture of our own; and, in the way we are now going on, it will be long before we shall have it. The last-named architects, Green & De Ville, exhibit their design for proposed Palais de Justice, Brussels, to which the third premium was awarded (205, 210, and 225): this we shall illustrate. (12), "Redhill Market Hall," T. & H. Francis, is too much like a private residence: it would be entirely so but for the clock in the porch. In like manner (212), "Design for the public Halls, Guildford," W. Lightly, fails to convey its purpose. (15), "Godolphin Schools, Hammersmith," C. H. Cooke, we have already engraved. The tower shown in the view now exhibited has not been built. Our engraving represents the building as erected, without it. (20), "Offices and Sale Rooms, Water-lane, City," John Whichcord, have the great merit of plenty of light. (24), "Slip roof now erecting at Millwall, for Messrs. Mare, for building Iron-cased Frigates," James Edmeston, is a satisfactory piece of iron framework. The same architect exhibits a view of "Messrs. King's premises, 77, Thames-street," a very lofty pile, with pointed red-brick arches, and picturesque arrangement of louvres on roof. The number of red-brick arches, by the way, in the collection is *very* considerable. (45) includes three graceful "Sketches in France," by R. Phené Spiers. (46) "St. Patrick's Cemetery, Low Leyton, Essex," Willson & Nicholl, shown by photographs. The buildings, Early Pointed in style, are appropriate and pleasing. The same gentlemen's "Studies for the high altars in churches of St. Charles Borromeo, Upper Ogle-street, London, and of the Augustinian Fathers, Limerick" (59), show knowledge and right feeling.

One of the best specimens of colouring in the rooms is No. 62, "Cathedral of St. Asaph, the Choir," J. Burbidge. We recognize the same gentleman's colouring in some of the other drawings here exhibited. 63 is one of Mr. Truefitt's characteristic houses "just erected at Hornsey-rise." 71, 72, and 73, C. J. Phipps, are some designs set forth in wild pen-and-ink scratches, which would disguise any idea, however good. 76, 114, 178, "Buildings designed and Buildings executed," J. P. Jones, show a fatal facility in recombining two or three of the fashionable elements, red-pointed arches and our friends the statues on brackets: we willingly recognize, nevertheless, a considerable amount of cleverness. 86 is a "Design for an Octagonal Vestibule, with four Porticoes to Government Offices at the crossing of two main thoroughfares," which the intelligent author of it, C. H. Smith, would be sorry to see carried out. Why put porticoes in a vestibule, when he would put down his own umbrella as soon as he reached it? 89, G. Goldie's solid-looking church at Greenock, we have already illustrated. 93, "Sculptural and Architectural Studies from Miraflores, Castille," J. B. Waring, show his great facility with the pencil and on stone. 95, "Designs for St. Michael's Schools and Lecture Hall, Handsworth, near Birmingham," S. C. Rogers. Although entirely plain and simple, its proportions, and the largely-overhanging roof on iron cantilevers, give it a distinguishing character. 108 and 109 are the section and elevation (not quite agreeing, by the way) of the design for an exchange for a large commercial city, for which the Royal Academy awarded the gold medal last year to Thomas H. Watson. The style is Italian Gothic, showing that timidity in the mouldings which characterizes it. The drawings are beautifully executed. Mr. I'Anson sends a pen-sketch of "The Château of Chambord" (25); and "A Villa at Dulwich" (30); Mr. Roger Smith, "The Design submitted in Competition for Hospital of Incurables" (125), which we mentioned at the time as the only one having the Gothic character; Mr. T. C. Clark, a very good drawing of the Presbyterian church he is now building in Upper-street, Islington (210); and Mr. Vaughan some of the excellent sketches he made abroad as the Soane medallion student of the Royal Institute of British Architects. Mr. Ashpitel, Mr. Brodrick, Mr. Joseph Clarke, Mr. Fowler, jun., Mr. Hadfield, Mr. Homann, Mr. Knightley, Mr. H. Oliver, Mr. Seddon, Mr. Shout, Mr. White, Mr. Wilkinson, and others, also exhibit, and aid in rendering the collection fully deserving of a visit.

The catalogue, we must mention, has a ragged and disjointed appearance, which might probably be remedied. Some little control, too, should be exercised over the descriptions inserted by manufacturers and companies.

## THE METROPOLITAN UNDERGROUND RAILWAY.

IF some astute opponent had managed the trip along the Metropolitan Railway made by a large party of invited guests on Saturday last,—one anxious to spread abroad a notion of its danger, dampness, and discomfort (in fact, to d. it altogether), he could scarcely have arranged better than the directors did on that occasion. In carts and out of carts, up ladders and down ladders, walking this bit, drawn by horses that, and pushed along by a locomotive another, through a suffocating atmosphere of sulphurous smoke; it was little better than a journey through a series of unconnected sewers; varied, midway, by a stoppage in a strong draught, while a group of the officials went out to be photographed. We have no hesitation in asserting that the majority of the visitors went away inwardly resolved never to use the Metropolitan Railway when it could by any possibility be avoided.

Our readers do not require to be told that we have a high opinion of the value of the line. We have before now spoken of the difficulty of the work; of the ability with which it is being executed; and we illustrated in our last volume the junction with the Great Northern Railway. They will know, therefore, that our present observations simply have reference to the recent ill-timed visit, and the utter want of proper arrangement to make it decently agreeable.

## MINSTERS AND PARISH CHURCHES.

AT the Architectural Museum, as we have already mentioned, Mr. Freeman, M.A., on 25th ult., gave an extempore lecture on "The Difference between Minsters and Parish Churches." The old English word "minster," one which appears to be fast dying out, is that which best expresses the class of churches,—cathedral, collegiate, or conventual,—which he wished to distinguish from common parochial buildings. The word *monasterium*, in Mediæval Latin, has two senses. In one it means *monastery;* in which sense it includes the church, the conventual buildings, and the whole society. In the other it means *minster* (German, *münster;* Old-French, *moustier*); that is, any great church, whether strictly monastic or not; but in this case it means simply the church, and not the society, or the subordinate buildings. It so happens that, among the churches to which the name *minster* is most commonly applied in England, a greater number are secular than regular; they were *monasteria*, therefore, only in the second, and not in the first sense. The architectural difference between these minsters and common parish churches is not merely a difference of size; some parish churches being larger than some minsters, and yet each retaining the genuine architectural character of churches of their own order. The wide distinction between minsters and parish churches is almost peculiar to England. Here we have two distinct types of church, each equally good in its own way; whereas, in France, the distinction is far less clearly marked. France is full, even fuller than England, of noble parish churches; but in France, when a parish church is a fine building at all, it has always more or less of the appearance of a small minster; while a fine English parish church has a wholly distinct character from the minster, but it may be equally good in its own way. On the other hand, though the great French churches in some respects surpass the English; yet some of the characters which we look on as essential to a minster come out much less strongly than in England. In England we look upon the perfect cross form, the transepts supporting the great central tower, as essential to the perfection of a minster. There are hardly more than three or four cathedral or abbey churches from which it is wholly absent,* while it is found also in numbers of our larger parish churches. In France, on the other hand, the true cross form, during the Gothic period, may be said to be wholly excluded from churches of the highest type. It occurs in the Romanesque of the south, but commonly in the shape of a dome: it occurs in Normandy, a province whose architecture in some other respects agrees with that of England: it occurs in numberless small minsters and large parish churches; but in the greatest churches of France proper the central tower seems absolutely unknown. This difference is closely connected with another great difference between French and English minsters, namely, the vast superiority of height in the French examples, which renders the central tower both constructively and æsthetically impossible.* From this it follows that the transept in French churches, though their north and south fronts are far more elaborate in England, are really of less consequence than in England. In fact, they may be omitted without any real loss. Churches like Bourges and Alby,† where the transept is wholly omitted, have really more satisfactory outlines than those of Amiens and Paris, where the transepts seem to ask for the central tower as their natural finish. In fact the common type of an English and a French cathedral gives the choice between the perfection of external outline and the perfection of internal majesty. Herein comes the unrivalled merit of St. Ouen at Rouen (the object of so much foolish and ignorant abuse, said Mr. Freeman, on the part of Mr. Ruskin), in that it alone unites the merits of the two classes of buildings. There are loftier interiors in France; there are more perfect outlines in England;‡ but there is no church which combines so admirable an outline with so stately an interior. Among many other points of difference between the great English and French minsters the most important are those which concern the treatment of the east and the west end. In France the apse surrounded by chapels is the usual, almost the universal, termination of the east end: in England it is only one form among several, and it is the rarest of any. At the west end the absence of the central tower in the French churches makes western towers more absolutely necessary than they are in England, and there is a marked difference in their treatment. In England the western towers are almost always exactly alike; and, in the few instances, as Llandaff, Canterbury (before the alterations), St. Margaret's, at Lynn, and St. German's, it seems to be always the result of later reconstruction; but in many instances in France the towers are evidently made purposely dissimilar. The doorways, also, in France are far more important than in England, and generally the west fronts are much more ornamented. There are many other differences: most of them may be studied without going out of England, or even going very far from London, by comparing the abbey of St. Alban, which exhibits the English peculiarities in an extreme form, with the abbey of Westminster, which is far more French than English. To turn to parochial churches: while in France the parish church is either a small minster or nothing, England has had the merit of developing two distinct types of beauty instead of one. Of course there are instances in which the two types run into one another. Many of our large parish churches with central towers have something of the character of the minster: many collegiate and a few monastic churches are not to be distinguished in their architecture from the parochial type; the whole class of friars' churches present a type intermediate between the two; still the distinction between the two classes, in the fully-developed examples of each, is plainly marked. It is not wholly a question of size and richness, for some perfect parish churches are larger and richer than some perfect minsters; though, undoubtedly, the minster type is that best suited for the largest, and the parochial type that best suited for the smallest churches. Nor is it wholly a question of style; though, undoubtedly, the minster type comes out best in one style, and the parochial type in another. The two things which do most to produce the character of the minster are the predominant central tower and the presence of the stone vault. From this last follows a certain massive dignity and solemnity in the minster, which is exactly opposed to the airy grace and lightness of the best purely parochial churches. From the same cause also follows the presence or absence of the triforium, which forms the chief distinction in the internal elevations of churches of the two types. This solemn massiveness, however, extends itself to churches where the vault is not actually present, —especially if there be no aisles, and if the style be Romanesque or quite Early Gothic,—as at Leonard Stanley in Gloucestershire, Llanbadarn-fawr in Cardiganshire, and the cathedral of Killaloe. All of these are minsters of the very smallest size; yet they preserve the minster character in its fulness. A slight degree of the same feeling extends itself to any church which has four well-developed limbs with high roofs, and a massive central tower. Thus, Broadwater Church, in Sussex, which has the further advantage of a vaulted choir, might almost pass as the church of a small monastery or as an Irish cathedral. On the other hand, a church without a vault,* and with its tower at the west end, however large and rich, is essentially parochial;—witness St. Margaret's at Leicester, Newark, Boston, and St. Michael's Coventry. The absence of the vault gives a wholly different character to the whole internal design, just as the absence of the central tower gives a wholly different character to the whole external outline. This difference will perhaps be best understood by running through the successive styles, and comparing the minsters and the parish churches in each. Romanesque is the most truly monastic style of all; even the parish churches built in it often catch something of the grandeur and dignity of the minster type. The style itself produces the required massiveness and solemnity; at no date is the cross form so common; and the frequent absence of aisles hinders the exhibition of the main difference at this date between the two types, namely, that in the internal elevations. For here the difference is most marked. It consists mainly in the presence of the triforium in the minster, and its absence in the parish church. But in a true Romanesque minster the triforium is a feature of such paramount importance, that its presence or absence makes a greater difference than anything else. The Romanesque minster, in its full English development, has a massive pier, round or shafted, a triforium nearly or quite as large as the arch below, a clerestory with a passage, and commonly an arch on each side of the opening of the window. The English parish church of the same date has a much slenderer pier, commonly a column with its distinct base, shaft, and capital: there is no triforium, and the clerestory is often absent, or at most it is a single window pierced through the wall over each arch. St. Sepulchre's at Cambridge is perhaps unique† as an example of a parish church with a triforium; but the triforium is not uncommonly omitted in small minsters like Buildwas Abbey; so that their arcades do not materially differ from those of parish churches. There are also other differences. The chancel arch projects much more, and is much more ornamented in the parish church than in the minster; and generally, throughout the Romanesque style, the larger the building the better it can dispense with ornament in all its parts. In the successive forms of Gothic, the importance of the triforium gradually diminishes. There are, indeed, a few instances, as at Romsey and Ely, of large Gothic triforia, but these are manifestly exceptional cases. The proportion has been determined by the necessary adaptation to the adjoining Romanesque work. Most contemporary triforia are very much smaller; at Wells the triforium has already sunk into a mere arcade, and in the later forms of Gothic it sinks from a mere arcade into a little panelling, as at Sherborne and St. Mary Redcliffe, or is wholly left out, as at Bath. Now, when the triforium is omitted, or has become insignificant, the difference between the internal design of the two types of churches is pretty nearly reduced to the difference produced by the presence or absence of vaulting. It is true that there is no time when the ordinary parish church differs more widely from the minster than during the days of Early Gothic. But this is because the parochial type of church was not yet fully worked out. There is abundance of beauty of particular parts in our Early Gothic parish churches, but it is very seldom that we find among them a real architectural design. Even the clerestory is most commonly omitted. Walton in Norfolk and Warmington in Northamptonshire are among the best; and the vaulted nave of Warmington so far makes some approach to the character of a minster, though the church is, in everything else, thoroughly parochial. Thus the contrast between the great and highly finished minsters of this date and the imperfect parochial buildings is stronger than at any other time, but it is generally the contrast between architectural character and its ab-

* Llandaff and Dorchester, both comparatively small buildings, are the most conspicuous examples of its total absence. At Westminster and Beverley the central tower exists, though it has never been carried up to any height. At Christ Church and Bangor it seems to have been intended. In some large parish churches, as St. Cuthbert's, Wells, it has been destroyed, and a western tower substituted.

* The central tower was actually built at Beauvais, but it fell soon after its erection. The attempt was probably unique, and it was made at a very late date.

† Alby, as a church not of French but of Aquitanian Gothic, does not properly enter into the comparison, but it illustrates this particular point.

‡ The outline spoken of is of course that originally designed, not that produced by the two new and foolish western towers.

* That is, one never designed for a vault. There are many cases where a vault was designed, but was never added: these are wholly different.

† St. Sepulchre's, Northampton, also probably shared the same peculiarity before its disfigurement. These round churches are a very exceptional class, and are hardly subject to ordinary rules.

sence, not the contrast between two different types of architectural character. For this last we have to look to the time when the parochial type was gradually worked out in the late Decorated and Perpendicular styles. The great parish churches of Somersetshire and of East-Anglia are as truly finished architectural designs as any minster can be. They are equally good in their own way, though the two ways are wholly different. But the difference is mainly produced by the absence of the central tower from the external outline, and the absence of vaulting from the internal elevation. The tendency of English architects to omit the vault was a peculiarity,—I venture to say a fault,—which shows itself from very early times. In Romanesque the vault is better away: the rich flat ceiling does far better; but it is strange to see naves like Llandaff and Romsey left intentionally unvaulted. Now, though the vault was constantly omitted during the early Gothic time, no *substitute* for it was discovered; the early wooden roofs (not of course the flat ceilings) are mere *makeshifts*. It was the later Gothic which first developed a *substitute* in the form of those grand wooden roofs which our architects, in many cases, evidently preferred to the vault. There are several types—the East-Anglian trefoil roof, perhaps better suited for a hall than for a church; the low-pitched tie-beam roof, which is found in most parts; and the coved roof of the West of England, which is most truly a substitute for a vault, and which, without any difference in its essential form, may be made as plain or as rich as anybody pleases. Now the development of the wooden roof, as an ornamental feature, is one of the characteristics of English Gothic and of later English Gothic. In France, the vault is infinitely more common than in England; but the choice lies between the vault and nothing. In England we have two forms of beauty, where France has only one. Grant the omission of the vault and the other parochial characteristics follow; the pier becomes taller and slenderer, the triforium vanishes, or sinks into a small line of panelling. The difference may be seen by comparing any of the great Somersetshire parish churches with Sherborne Minster and St. Mary Redcliffe. Redcliffe is probably the only parish church in England which is vaulted throughout; it therefore, though it has no central tower, has in everything else the perfect character of a minster. The difference is at once apparent if you contrast it with St. Michael's at Coventry, a church of still greater size, but unvaulted.

Mr. Freeman ended his lecture by reminding his hearers that though the two types, in their full developments, were thus widely distinct, they must be prepared to find many examples in which the two types run into one another. Thus the smaller collegiate and the larger parochial churches had much in common. In the great town churches, besides the rector or vicar, there were always chaplains, chantry-priests, and other assistant clergy, so that many of them were practically collegiate; and the smaller among the formally collegiate churches differed from them mainly in the legal incorporation given to their clergy. It is only natural, then, that no very wide architectural difference should be made between them. The friars' churches, again, form another intermediate class. The friars were monks, but monks who were brought into much closer contact with the people than the monks of the elder orders. Their churches, therefore, naturally form a link between purely monastic and purely parochial buildings. They have many peculiarities: the central tower is very common; but the perfect cross form hardly occurs: a single large transept on one side, and a single aisle, is very common; the clerestory is rare, the triforium probably unknown. In short, a friars' church may be roughly described as consisting of a parochial nave for the public sermons of the friars, a choir, much like a college chapel, for their private devotions, and a tall slender tower interposed between the two. Most of the English examples of friar's churches are much spoiled and mutilated. There are examples at Austin-friars, in London; at Winchester, at Reading, and at Brecon; but the best is probably to be found at Norwich. The nave is now a music-hall, and the choir a Dutch church. The interposed tower has fallen down, but it may easily be replaced in idea by that which stands all alone at Lynn. But the country where these churches may be best studied is Ireland. The ruins of friars' churches are there most abundant, as are also the ruins of monastic churches of the elder orders, on a smaller scale than are common in England, so that there are the best possible materials for the comparison.

## THE GREEN PARK AND LONDON MONUMENTAL.

IN our number of the 22nd March, we gave utterance to our thoughts touching the laying out the Green Park in a way, as we believed, worthy of our world-renowned capital; the chief city of the largest empire in the world, upon which, it is said, the "sun never sets;" and yet, for all this might and power, there is scarcely a small German or Italian capital that does not excel us in our street architecture. Ours is detestable; some late examples excepted. Look at our miles of ugly brick houses begrimed with smoke, without one feature of architecture the weary eye can look satisfactorily on: it is literally all "desert from Dan to Beersheba." We have heard that foreigners, after travelling some hundreds of miles, in other instances some thousands, to visit the modern Babylon; which, alas! it only resembles in its size and its sins; have asked to be shown "the *grande place!*" and Trafalgar-square has been exhibited to them. Let any one place himself on those steps leading to the two or three rooms which we bombastically call our National Gallery, and look southwards at the higgledy-piggledy wretched-looking habitations that alone meet the eye from Charing-cross downwards, unrelieved except by a couple of drinking-fountains,* to which there have never been caps; and a Corinthian pillar erected, to the memory of Nelson some twenty-five years ago, and never yet finished.

We will not further digress from our subject by showing how, by the *placing* of the present gallery out of *a place*, a really fine situation has been lost; nor how, by unwise and ill-judged economy, we have gone on for so many years contriving, and altering, and patching up temporary or insufficient buildings for any required object; and by such condemnable expediency spending in the end infinitely more money than it would have cost to erect such masses of architecture as would have rendered us respectable in our own eyes, and saved us from being the laughing-stock, as we really are, of other nations. We believe that no country has lavished more money on these abortive attempts than England; but we have been either unfortunate or stupid—perhaps both; for really we have as yet produced very *little* that is *great;* and that man would deserve well of, and would, there can be no doubt, eventually receive the thanks of his country, who had the boldness and genius to break through this penny-wise and pound-foolish huckstering economy, and propose and carry out—for if he persevere he will carry it out—some great and comprehensive plan that would give to London the "*grande place*" which it ought to have; and which we hope we may be forgiven for saying it is a discredit—nay, let us not spare ourselves—a disgrace to be without. We believe that the plan we have suggested for laying out the Green Park would, if adopted, give us this desideratum; and such a one as would be found to be *unequalled* in any other country. In saying this we do not forget the *Champs Elysées*, and the beautiful gardens of the Tuileries, which, we believe, we should more than equal. We should have a "Walhalla" terminating and forming a continuation of Pall Mall; for though, by an inadvertence, we omitted to allude to this, one of its greatest features, in our first plan, it forms an integral part of it; and so, far as the opening from Pall-mall to the Green Park goes, was one contemplated by the then authorities of the day. There are not any serious obstacles, to our knowledge, to contend with in making this most desirable opening; and we will appeal to any persons of taste as to what would be the effect from this really already fine street, of such a termination to it as the one proposed. The architect, the artist, the sculptor, the man of taste,—whatever may be his vocation,—could not fail to carry in his mind's eye the grand *coup de Théâtre* that would be produced. Pall Mall, with its many fine palatial buildings,—straight and level to a line, as it should be,—passing by St. James's Palace* on the left, and Bridgwater House, the last on the right; and so at once into the Park, with its terraces, fountains, and statues; and the great culminating point, a memorial of the late Prince, terminating this unequalled vista. No one can doubt that the effect, as seen from this point, would be superb; and it would have this additional and crowning advantage, of being within ken, as it were, of "the town" itself: it would form, as it were, *a part of the city*. We should not have to make a purpose journey to see it,—as a distant object, not decorating, as it were, the capital, but rather the neighbourhood. The promenaders, the passers-by in the streets, would always have it before the eye;—and this is as it should be. It has been suggested, and most considerately, that so laying out this little park might interfere with the amusement or relaxation of the public. It will be borne in mind that St. James's Park and Hyde Park are close at hand; and, if it be necessary or desirable to provide lawn for reclining or sleeping on, ample space will be found in either of these parks for this purpose; but, even in the proposed conversion of the Green Park, the slopes (and indeed other accommodation) might be set apart for this object. But supposing this particular indulgence were lost to the few who would take advantage of it, they would be amply compensated for it by the fine walks, fountains, statues, and other objects of art which would gratify the eye.

* We were very glad to hear the First Commissioner of Works announce to the House of Commons that in the month of May—our merry month—"these fountains would be such as every Englishman might be proud of; that works were now in progress which will make them very ornamental." How this most desirable work has been so very unexpectedly and quietly carried out we know not; but we own it is a most agreeable surprise; and we await the result with a somewhat pleasurable impatience. It is of no use asking the Chief Commissioner of Works if the long-promised lions intended for the Nelson column,—promised—not indeed by him, but by his predecessors, will be ready also by the month of May? All the British lions would welcome them with a joyful roar. Their completion appears to rest with another. As we have said elsewhere, they have been a long time about.

## THE DRAMATIC COLLEGE, NEAR WOKING.

TWO blocks of houses, five double homes in each, are nearly ready for habitation. The water is being forced up to the top of each from a well sunk for the purpose; and, probably, by Shakspeare's birthday, some will contain comforted occupants. Each home includes a sitting-room (give us the upper one in preference, with its pleasant seat in the bay window and far-away view), a bed-room, and a little kitchen, with place for coals, and private conveniences. Some picture-rods round each sitting-room will enable the tenants to keep alive their love of the beautiful, without making holes in the plaster. Externally, the buildings have the Elizabethan character; and show gables and finials, lofty moulded brick chimneys, bay windows, and an open arcade with ornamental columns, stone being used somewhat profusely with the red brickwork.

A scheme is on foot, and money quietly subscribing to turn the capitals of these columns, at present *en bloc*, into a number of pleasant illustrations in stone of dramatic literature. If this idea be well carried out, visitors will have something to look at besides the wonderful bank of rhododendrons; stretching the whole length of the frontage; and to which the railway gives elevation. When the bushes are in bloom, this will be a sight to see, and will show cause for some excursion trains. The two blocks have yet to be converted into a whole by the erection between them of a hall of size, for which a somewhat wide space has been left. This is to form an important part of the Institution: pictures, books, and theatrical collections are promised; affording materials, it may be hoped, for the history of our stage that is yet to be written. Here meetings will be held, and perhaps Theatrical Fund dinners eaten; for in the country though it be, it is not an hour's distance from Waterloo. We must whisper in the gentlest tones to the committee of which Mr. Benjamin Webster is the active head, that they have been led to spend rather a larger sum considering the number of houses built than might have been expected,—but then, on the other hand, the works are well and soundly done, and will last, if not as long as the gravedigger's, a goodly number of centuries. The Dramatic College has our heartiest good wishes.

## ON THE DECORATION OF THE INTERNATIONAL EXHIBITION BUILDING.

ON Wednesday evening last Mr. J. Gregory Crace read the following paper at the Society of Arts, Adelphi:—

The building for the International Exhibition, now so shortly to be opened, has been lucidly explained by Captain Phillpotts, in the paper read before you in December last; therefore, it will be unnecessary for me to take up much of your time in a description of the various parts of it; and I

* It must not be supposed that we for the moment think that the rotten group of miserable brick tenements huddled together and called a "palace" would be any ornament in this proposed plan: far from it. We imagine it to have received proper attention and revision.

will only briefly recall to your minds the main features and arrangement of the building, in order that you may more easily understand me when I refer to them in my description of the decoration. This arrangement of the building will be easily understood by referring to the ground-plan. The principal front faces the Cromwell-road, and has a south aspect: it extends nearly 1,200 feet. On the first floor of this front range the series of picture galleries. Parallel with this front is the nave, 800 feet long, and terminating at each end in the great domes, each 160 feet in diameter. From these extend again, north and south, the transepts, having each a length of 200 feet on either side of the domes. The extreme length is 1,200 feet. The height to the pitch of roof in nave and transept is 100 feet, and the width between the columns 85 feet. The great domes have a diameter of 160 feet, and rise to an interior height of 200 feet. Galleries, 50 feet wide, extend on both sides of the nave and inner sides of transepts. Other galleries, 25 feet wide, are carried round the outer sides of transepts and sides of walls of picture galleries, and one 12 feet wide against walls of refreshment-rooms.

Parallel with the nave, and on either side of it, are the glass courts; those on the south side being 200 feet wide, those on the north 87 feet.

On the north side of this area is a large range of building, forming the refreshment-rooms; through these, under a triple archway, nearly opposite the main entrance from the Cromwell-road, is an entrance to the Horticultural Gardens, of which a most pleasing view is here seen. This completes the description of the main area of the building; but at both extremities extend two very important additions, namely, the eastern and western annexes, the latter nearly 1,000 feet long, and the former 775 feet.

Having refreshed your memory as to the form, size, and arrangement of the building, I will now speak of the decoration of it.

We will enter by the great archway in the centre of the south front; and, passing by the staircase which leads to the picture-galleries, and to which we will return by-and-by, we proceed to the nave. I confess that when I first saw this interior my heart quailed; its general aspect was not encouraging; the day was damp and bleakly cold; the rough polygonal arched principals and diagonal boarded ceiling looked heavy and difficult to manage; the light from the clerestory windows fell in faint streams on the muddy road, that was then the traffic way in the interior; masses of dark scaffolding, obstructing the light from where the domes were then being erected, and the various trials of colouring which had been already made, —one, at least, of them by an able man,—showed me that it would require very careful consideration indeed before I should decide upon what style of decoration to adopt. Do not let me be unjust, nor let my own apprehensions as to a successful treatment of the decorations lead you to suppose that I mean to reflect on the building itself. When I came quietly to consider all the features of the construction, I found that those apparently heavy principals only required to be properly treated in colour to be sufficiently light; that they were also of most ingenious construction; that the proportion was pleasing; and that the light of the clerestory windows was amply sufficient. I fear that many may have seen the building under the same adverse circumstances that first presented it to my view, and have passed criticisms not so just as the merits of the undoubtedly talented contriver of the building should deserve. Pardon me if I have wandered for a moment from the subject of my paper, more especially as I earnestly hope that, in any discussion that may follow, it will be borne in mind that now before us.

Well, we are in the nave. How to decorate it? I had not too much time to think; the work must be done. It was January the 23rd when I received the authority from the Royal Commissioners to assume the decoration of the building with the entire responsibility of the results—the work must be completed by March.

After careful consideration I decided that the general tone of the roof must be light, and that the best colour would be a warm pale grey; that the arched principals must be made to stand out clear from the roof; that they must look well in a perspective of 800 feet; and that they must not look heavy or confused as they approached each other in the distance. No single colour would do, and after a pretty stiff bit of reflection of twenty-four hours, I confirmed myself in my opinion of what would be the most likely way of treating the principals.

I have remarked that the form of these is polygonal. They are in three thicknesses, the centres of the outer planks covering the joints of the inner ones.

I consider that the form precluded the use of a continuous repeat ornament. I therefore decided on following the form of the construction, and adopted panellings of blue and red alternately, relieved by coloured lines, intersected at the joints by circles of black, on which are gold stars, and from these spring ornaments in vellum colour, with green in the filling, as shown in the coloured drawing.

Following out this arrangement I had a pattern painted on paper of the full size of one of the principals, and it was fixed in its place within a week from the time of my appointment; part of that identical pattern is now in this room; it has never been altered, and thus exactly it has been carried out throughout the roofs of the naves and transepts.

Until the principals were coloured, it seemed to me that the thicknesses were lost. I wished to make the construction evident, and I therefore coloured the two outer edges in chequers of black and vellum colour, and the centre edge full red. As to the bracings above the polygonal arches I coloured them the warm-wood colour, with red or blue coloured lines on the face, and the under thicknesses red.

I have said that I decided on warm grey for the roof of nave. I did so because it gave space and lightness; and on its surface I introduced an upright scroll ornament in red, with gold, star-like rosettes, sparingly introduced. My object in this ornament was to raise the apparent pitch of the roof, and to relieve and warm the effect of the grey. The horizontal purlins, on the contrary, I kept purposely light, so as not to depress the rise of the roof, or interfere with, or confuse the effect of the principals. The ridge piece of the roof, in itself comparatively small, I marked as strongly as possible, as the apex, in black and vellum white, *en chevronné:* on each side I coloured a margin of maroon red, and a little below that a bordering of very warm green, shaped to accord with the top scrolls of the red vertical ornament, the green being relieved with rosettes of gold colour. At the base of the slope of roof this green is again introduced in much the same way, and the band of maroon also. Below this are the clerestory windows.

The next important features in the nave are the iron columns, supporting the principals as well as the galleries. These I have painted pale bronze colour, relieved with gold colour vertical lines. The capitals are gilt; the grounds being picked in rich red or blue alternately; the centre blocks of the columns are also coloured red, with bands of blue, or *vice versa*, the mouldings being gilt, and the same style of colour is continued to the bases. The top plate above the columns is painted bronze colour, relieved with light gold colour ornament on the upper part, and a vitruvian scroll in gold colour, with a maroon red base on the lower part.

The gallery railings are light bronze colour, the rose, shamrock, and thistle ornament being partly gilt, and the whole backed with deep red cloth. The plate under the gallery is painted oak colour, relieved with deep brown interlaced ornament.

I have kept the part below the line of arches purposely quiet in colour, in order that the brilliancy and richness of the various articles exhibited may not be interfered with. The roof, on the contrary, is rather vivid in colour, to carry up as it were, in some degree, the gaiety of the scene below; and this will be still further sustained by a series of banners of the various countries whose products are assembled in this [illegible] my introduction of the vivid colours in the arched principals of the nave; but I think that many who fancied it would look too powerful, will confess their surprise at its comparatively quiet effect now that it is completed. The colours being properly balanced have neutralized each other. Most of you probably know that blue, red, and yellow, in the proportion of three, two, and one, when mixed with white, produce a grey, exactly the same as a grey produced by mixing black and white. I will show you. I take ultramarine blue three parts, vermilion two parts, and chrome yellow one part. I mix them together, add some white—you observe it is grey. I take some black and white, mix them, and identically the same grey is produced. If you paint on a disc radiated stripes of blue, red, and yellow, in proper proportions, and make the disc revolve rapidly, you find grey produced, the same as if they were stripes of black and white. The effect of the roof of the nave exemplifies this theory.

I have heard it said by some that it would have been better to have employed panelings of one colour instead of two to each principal, and made the principals alternately blue and red; in my opinion they would have been utterly disappointed; the striped contrasts would have by no means given the softness, richness, and glow of the present colouring. To convince myself I, at one stage of the colouring, tried, by fixing blue paper over the red panelings in one principal, and red paper over the blue panelings of another; the effect was not nearly as good, and I was confirmed that the principle I had adopted was the right one.

You will find this principle of counterchanging colours adopted in most of the decorations of the early masters, which abound in Italy. Those decorations, so beautiful, so interesting, rich, glowing in colour, full of fancy and taste in the ornament, the masses well arranged, the most perfect harmony everywhere, and dignified by often acting as the framework of the highest gems of art. My son, who has been lately studying from these works in Italy, has made a series of sketches from some of them, which I thought might illustrate the observations I am addressing to you, and prove not uninteresting to those who are fond of decorative art.

You will find in the roof of the Upper Church of Assisi, in the Chapel of St. Corporale, of Orvieto, and in the Palazzo Spinola, examples of countercharging of colouring, and in the roof of the Cathedral of Lucca the chevroneze of black and gold. In fact, the works of the Italian decorators of the fifteenth century afford most valuable lessons in ornamentation and colouring. But I must not be led astray from my more immediate subject. Having described the nave, I will now proceed to the domes which rise at either end of it, and form a point of intersection with that and the transepts. They are undoubtedly the main features of the building.

In plan their form is dodecagonal, or twelve-sided; but made to assume the appearance of an octagon, because the arches towards the nave and transept cross each other, and form a kind of angular-arched opening of 85 feet span, the intermediate arches being about 35 feet span. From the floor of the nave to the springing of the domes is 114 feet, the total interior height to the crown of the domes being about 200 feet. There are twelve main ribs to each dome, meeting in a sort of ring plate, and thence eight of them carry on to the centre. The crown of each dome has an ornamental zinc covering, as explained in the drawing; all below this is glass.

My principal difficulty in carrying out the decoration of the domes was, that I could see nothing of them. The scaffold formed a series of solid stages or floors, through which it was impossible to view anything; and I confess I never could mount the ladders above 100 feet; but even there the scaffolding was so thick that I could see nothing of the top, and very little of the cornice, fascia, and walls.

At last Mr. Ashton contrived to get for me an open square box into which I got, and was drawn up by means of his beautiful little engine very pleasantly to the top; yet, when I got there, the ceiling almost touched my head, so that I had no opportunity of judging beforehand of the effect of distance and light upon my colouring, and I knew well that they were very formidable elements for consideration. The knowledge that the scaffold would be taken down before I possibly could judge of the effect, and that, when once down, I could never hope to touch my decoration again, caused me many an anxious thought.

The main ribs are painted bright red, with spaced up the centre spreads at intervals of about 4 feet into lozenges and circles containing gilt stars on a blue ground: where the main ribs reach the ring plate I carry round the red, marking the points of intersection with black and white; thence the eight main ribs are painted deep blue, relieved with red, gold, and black, until they meet in the centre pipe or pendant, which is gilt bordered with red. The shaped covering, or umbrella, as I am accustomed to call it, is painted light blue; gold colour and gilt rays diverging from the centre and streaming a considerable way down the blue, the shaped outline of which is bordered with red and gold ornament.

In decorating the walls of the domes, the solid parts between the arches, and the springing of the roof, it was necessary to consider the probable effect of the great mass of light above. On the one hand it was desirable to sustain it with suffi-

cient strength of colour; on the other, it would be dangerous to make it too heavy.

The moulding of the cornice and fascia are painted vellum colour, very slightly relieved by gilding; the trusses are gold colour; the fascia between them is red, with a vellum patera; the soffit is green. The broad fascia below is painted blue, and on it is inscribed, in gold letters, 3 feet high, the exordium of David, in the 29th chapter of the First Book of Chronicles,—"Thine, O Lord, is the greatness, and the glory, and the victory, and the majesty: for all that is in the heaven and the earth is thine;" and, "O Lord, both riches and honour come of Thee, and Thou reignest over all; and in Thine hand is power and might, and in Thine hand it is to make great."

The large iron columns, which rise nearly 100 feet high, are painted dark maroon colour, their capitals being richly gilt. The paneling between the arches and the frieze is painted in shades of red, relieved by coloured lines; in the four broad compartments are inscribed, on dark-green panels, Europe, Asia, Africa, and America; below, on a circle, are the initials of those so beloved by us all, Victoria and Albert. On the eight spandrils to the four main arches are medallions, 8 feet diameter, by Mr. Burchett, of the Kensington School of Art, emblematic of manufactures, commerce, and the various arts and sciences which lend their aid. These were executed in an exceedingly short time; and, like all the rest of the work, with no opportunity of judging how they would look in their elevated situation. I should add that, round the red paneling is a broad margin of sage green, on which are stencilled pateras. The moulding of the arches is painted vellum colour, the top fillet being gilt, and the face of them ornamented with vitruvian scroll, in dark colour.

The walls at the gable end of the nave and transept are treated so as to recall the arched form of the principals. Under these a semi-circular panel is formed of warm brown colour, bordered by a broad blue margin, on which are gold stars. Inside the panels are written the following sentences:—

On the east end of nave—

"The wise and their works are in the hand of God."
Ecclesiastes, chap ix., v. 1.

On the east end of transept—

"Alternately the Nations learn and teach."—Cowper.

On the south-east end of transept—

"Each climate needs what other climes produce."
Cowper.

On the west end of the building the sentences are in Latin, being the part occupied by foreign exhibitors. At the end of nave is written—

"Gloria in excelsis Deo et in Terra Pax."

At the north-west end of transept—

"Domini est Terra et plenitudo ejus."

At the south-west end of transept—

"Deus in terram respexit et implevit illam bonis suis."

Inside these semi-circular panels are a series of radiating panels, painted maroon, and bearing the names of the various sciences and arts which have affinity with the objects exhibited.

I have mentioned that on either side of the nave extend the series of courts roofed with glass. These admit of very limited decoration, and the colouring I consider should be of a subdued and retiring character. The objects exhibited are to be the show. The brick walls which form the boundary on one side not being dry, it was necessary to have a colour which would not be materially affected by that circumstance. I adopted a quiet maroon colour, made with venetian red and bronze, relieved by gold colour.

The skylight frames are painted cream white, relieved by lines of red and blue alternately. Under the galleries the ceilings are painted very light grey, the joists cream white, the bottom edges lined blue, and the girders lined maroon red.

Let me here offer a few words of advice to the exhibitors of manufactured goods in silks, woollens, and cottons.

Many rich and valuable stuffs were seriously injured at the Exhibition of 1851, by injudicious arrangement of them. Brocaded silks of gay colours, or printed woollens or cottons, are best exhibited if somewhat shaded from the light; it would be well, too, if they were contrasted with deep tones of velvet or other plain material.

In the arrangement of plain fabrics, such as cloths, merinos, or velvets, much will depend on the way the colours are brought together. Avoid blazing contrasts of colour, such as bright red next bright green; or bright blue next bright yellow; such contrasts are not harmonious: let one of the two colours always be subservient to the other. It is not so much what colour a material is, but how that colour is made to appear. It is necessary to bear in mind that all colours have their complementaries, which add to or detract from the beauty of the adjoining colours, according to what they may be. Thus, the complementaries of red are green; blue are orange; yellow are violet. If you cut out pieces of grey paper in an ornamental form, and stick a piece on each of the three colours I have named, you will find, in a shaded light, the grey will be fully tinted by the complementaries of these colours. But you cannot lay down precise rules. An experienced artist can bring any two colours together by properly modulating them.

Nothing is so charming and so refreshing to the eye as an harmonious arrangement of colours. They are "like a sweet chord of music to the sense." The hand of nature never errs, whether it brings together scarlet and crimson, as in the cactus; scarlet and purple, in the fuschia; yellow and orange, as in the calceolaria; or the colours in the varied plumage of exotic birds—the harmony is always beautiful, ever perfect. The laws of harmonious colouring are a necessary part of the knowledge of the manufacturers of coloured fabrics.

I will suggest a few contrasts.

1. Black and warm brown.
2. Violet and pale green.
3. Violet and light rose colour.
4. Deep blue and golden brown.
5. Chocolate and bright blue.
6. Deep red and grey.
7. Maroon and warm green.
8. Deep blue and pink.
9. Chocolate and pea green.
10. Maroon and deep blue.
11. Claret and buff.
12. Black and warm green.

Resuming our immediate subject, we will now return to the principal staircase, which we passed on our entrance from the Cromwell-road. The walls of the lower part of this staircase will be painted maroon red, as a background for the statues, bas-reliefs, and other art works which will be placed here. The upper part of the wall, or, rather, space above the wall, will be inclosed by the various specimens of stained glass. Arrived at the landing, we enter the centre vestibule, from which we first gain the view of the magnificent range of picture galleries, extending 500 feet on each side. This vestibule will itself be filled with sculpture. The walls are coloured subdued red up to the string course: above that they are sage green.

The picture galleries on the east side contain the collection of the British, those on the west side the foreign schools; in size and arrangement they are exactly the same. The width of the galleries is 50 feet; the wall is 31 feet high, up to the cornice, from which springs a deep cove supporting the centre light.

Many of the pictures to be exhibited having been painted many years, it was essential to have a very low tone of colour for the walls; I adopted a sage green. When the colouring was partly done, and there remained some of the white wall still uncoloured, it was thought by many that the tone would be far too dark, and I mention this to show how difficult it is to judge of effects of colour till all the parts are complete. I never at present hear any fears expressed of the too great depth of colour. The cornice is painted vellum colour, with maroon in the hollow: the ground of the cove is tinted of the same colour as the walls, and is divided into two compartments by upright margins in vellum colour, on which is stencilled ornament on a deep ground; the compartments of green are marginal lines of maroon. The soffit is also vellum colour relieved by stencil ornament in maroon, and the upper cornice is cream colour.

The end walls of the principal galleries are slightly decorated; on either side of the arched entrance it is intended to place statues, and therefore it was necessary to have a maroon-red panel background; this is carried up to the springing of the arch, and thence broken into five concentric panels; above these are painted ornaments supporting medallions, in which are inscribed the names of painters.

To show with what energy it was necessary to carry out the works, I will mention that the whole of the picture galleries on the east side were painted and decorated in five days. I was asked on Saturday if my designs were ready—I decided the colours on Monday morning, the work was commenced at mid-day, and completed mid-day the following Saturday.

At the end of the principal galleries we enter the auxiliary galleries, which have a length of nearly 250 feet on each side of the domes; in these will be arranged the collection of water-colour drawings, architectural designs, &c.; here I have adopted a lighter tone of the same colouring as in the larger galleries.

Crossing over to the north side of the building we enter by the triple archway, which I have before mentioned, the immense range of apartments devoted to refreshments; unfortunately, the state of the walls is such, that it will not be possible for the present to decorate them, except indeed the three large rooms on the upper floor, where the ceilings are of wooden construction; but I must needs confess that nothing I could do on the walls would compete with the charming view to be seen from the windows which run the entire length of these rooms. The whole of the new Horticultural Gardens is seen with beautiful effect; all their ornamental parterres, fountains, and walks, bounded by the handsome colonnades and conservatory, being seen in greater perfection than from any part of the Gardens themselves.

Having thus described to you, very imperfectly I confess, the decoration we have done, let me explain to you, briefly, how we did it. It was indispensable, in all the designs for the decorations, that they should be so arranged as to be easy of execution; that the important principle of "the greatest effect at the least cost," should be strictly attended to. Therefore all ornament had to be done by stenciling, and all the colouring on woodwork was to be done in distemper. What the stenciling is I will explain presently. Distemper is a very ready means of colouring surfaces, because one coat of it bears out and gives a result more solid and more luminous than four coats of oil paint, but it has the disadvantage of not being preservative like the last, and it cannot be washed. Perhaps no one will ever discover the very rough state of the principals of the roof of nave, which are simply saw-cut, besides being blemished by the process of carting and lifting them. The coat of distemper conceals all that. It is composed of whiting and size, made of any tint required by adding the usual colours.

Stenciling is performed by cutting out the pattern required in stout strong paper, which is then varnished over to strengthen and preserve it; taking care also to leave proper ties to keep the pattern together. I think that in the progress of the work more than 100 men must have been employed at this stenciling; out of whom, I have reason to believe, scarcely half a dozen ever did it before; and yet the work has been very well executed, and reflects much credit upon all those engaged upon it. I am happy to acknowledge the intelligence and perseverance of Mr. Huish, the foreman painter of Messrs. Kelk & Lucas, in directing these men. Also they will join with me, I am sure, in confessing how much they and I are indebted to the able assistance of my artist, Mr. Haclin; nor can I be silent on the constant aid I have received from my eldest son, whose sketches will sufficiently speak for him. The task I undertook was attended with difficulties of what I may call a diplomatic kind. The contractors were at the expense of carrying out the work I directed, and were naturally not desirous to be wasteful; the Royal Commissioners wished the work to look as well as possible: therefore, it is easy to be imagined that where one side used the whip the other pulled the reins; nevertheless, I feel bound to state that the contractors desired out, and that they have been actuated by liberal and unselfish feelings.

I have little more to say, but there is one word of thanks I cannot but give expression to on this occasion; it is to acknowledge with gratitude the encouraging support I have derived from the criticisms on my work which have appeared occasionally in the *Times* newspaper.

In a few days the International Exhibition will be opened, the collected industry, science, and art of the whole world, thus brought together, will be opened to your view. I trust that they will in no way be injured by what I have done.

---

LINCOLN CATHEDRAL.—The Earl of Yarborough has expressed a wish to evince his respect and affection for his late father by placing, at his own cost, a memorial window in the cathedral at Lincoln. It is probable, therefore, that the subscriptions to the window will be discontinued.

## THE NATIONAL MONUMENT TO THE PRINCE CONSORT.

We have every reason to believe (and are very glad to hear it) that the national memorial to be erected in honour of the late Prince Consort will not take the form of a monolithic obelisk. If the statements we hear are correct, Her Majesty's Committee are disposed to adopt the design we threw out immediately after the lamented death of the Prince, and which we forbore to urge, in deference to the suggestion made in Her Majesty's letter. What we said was this:—

Numerous suggestions as to the form the memorial should take have been addressed to the committee; but at present they confine themselves solely to raising a fund. When the amount is known, they will then be better able to consider what should be done with it. For our own part we desiderate a grand union of the arts in honour of one who knew and loved them all. We see in the mind's eye a magnificent Temple enshrining a noble statue of the Honoured One. Upon and around the pedestal are groups and *relievi* illustrating his character; while other *relievi* and paintings, in the entablature and elsewhere, set forth the incidents of his life. The worker in metal, the glass-painter, the mosaicists, have co-operated with the architect and sculptor: marbles of all sorts join with the richest materials of their several kinds and the cunningest art: and we have at once a fitting monument for the Hero of the family-life, and an evidence of the position to which the arts have attained amongst us. A large sum would of course be needed to make the vision a reality—but what of that? It would be a good investment for the country; a worthy evidence of the national feeling: that which would give joy and elevation of thought to generations, would be cheap at a very large sum. The genius required to produce it might be more difficult to find than the money; but even that we think would be forthcoming if properly called out.

We shall sincerely rejoice to find our information correct.

A correspondent unacquainted with our early suggestion writes as follows:—

It appears to me to be a great pity that so excellent a man as the late lamented Prince, "Albert the Good," should be likely to have so poor a monument to do honour to his life and memory, as what is now called a "monolith." The largest monument of this kind must be somewhat poor, as being merely the successful effort of machinery moved by a huge sum of money. Of course, if it were desirable, we could erect the Mull stone, and Cleopatra's Needle on the summit of it, and the "monoxyle" from Norfolk Island on the top of the two monoliths. And what then? We should have a most costly result of, what we may call, brute force, most skilfully and extravagantly applied, and all for one memory. But the present is an opportunity which may not again, in our time, occur, of erecting a "Valhalla" to enshrine the memories of illustrious Englishmen of all classes and in all arts. The building might be exceedingly well designed upon some such plan as the church of San Tomaso in Limine (see Fergusson's "Handbook of Architecture," vol. ii., p. 546, figs. 423, 424); of which it is well observed by the author, "we must regret that the idea was never carried out on such a scale as to enable us to judge of the effect of such a domical arrangement as is here attempted." This church is domical, of two stories; and if such a design were carried out on a very large scale, the building (which need not necessarily be a church), with a lofty campanile for a clock bell, and a cloister, might be a glorious architectural work of the highest art; of ample size, and exceedingly well fitted to contain monumental sculpture, frescoes, windows, &c.; and I think would be a far more appropriate monument to Albert, the good Prince Consort, than a tall stone post, whose chief characteristics are bigness, shinyness, and costliness. He would have been the last to wish for so (apparently) selfish and costly a monument to himself; and, being himself an artist of no mean rank, he would have rejoiced in the idea of *his* monument sheltering under its lofty and wide-extending dome the monuments of his fellow-Englishmen of all classes. L.

---

The amount now subscribed is 44,300*l.* A very erroneous impression of a proposal made by a member of the committee to initiate a wider subscription than has yet been practicable having been given by some of the daily papers, we print the following letter which was submitted on Thursday last to the committee appointed by the Society of Arts to afford to every subject of the Queen the means of subscribing:—

"Brompton, April 9th, 1862.

*National Monument to the Prince Consort.*

Dear Sir,—I am very sorry that an engagement will prevent me from attending the preliminary meeting of committee to-morrow to which you have invited me.

On the 2nd instant I submitted to the Mansion House Memorial Committee, of which I am a member, a scheme for the distribution of a large number of collecting cards, with the view of affording to all classes an opportunity to subscribe to the proposed National Memorial. To-day it was further considered by the Mansion House Committee, and it was resolved that, in deference to the movement which had since been inaugurated by the Society of Arts in the direction pointed to by my proposal, no steps should be taken upon it. It was suggested, however, by the Lord Mayor, that I should communicate the proposition to the Society of Arts, Committee; and I now, therefore, beg leave to send you a proof of card and suggested slip to accompany it.

My notion would be to print, say 10,000 such cards and slips, to begin with, of the size given, to suit ordinary envelopes. The cards to be numbered consecutively, and every person who receives a supply to be accountable for the same. A clerk to register all issued. Each card to be returned by collectors to *the person from whom they received it*. A large distribution of the cards might be made:—

By means of the societies in union with the Society of Arts;

By members of the committee handing them to friends, and the latter again to others;

By the railway companies and bankers;

By large manufacturers;

By various Government offices;

By ladies' committees, who would distribute, collect, and return them; &c. &c.

I forward this suggestion simply that the committee may have it before them, with others, for consideration, and so be assisted in devising the best arrangement to effect the good object they have in view.—I am, &c.,

George Godwin.

P. Le Neve Foster, esq., secretary."

## PROVINCIAL MEMORIALS OF THE PRINCE.

*Oxford.*—The idea of erecting an ornamental fountain in St. Giles's has been revived, and it is suggested that it would serve as a memorial of the Prince Consort. Some time ago a design was prepared by Mr. Scott, architect. In that design a statue of Alfred the Great formed an important feature, but it has been suggested that a statue of "Albert, the Good and Great," should be substituted. Some time ago the Street Commissioners voted 200*l.* towards it. The design for the fountain is now on view at Oxford.

*Bradford.*—The memorial committee here have resolved, "That the establishment of an institution for the promotion of art and science, to be called 'The Albert Institute,' would be a fitting mode of perpetuating the memory of his late Royal Highness the Prince Consort; and that a sub-committee be formed to ascertain the probability of securing sufficient funds for the effective carrying out of this object." The sum to be aimed at is 10,000*l.*

*The Suffolk Memorial.*—A meeting of the general committee, held in the Railway Station, Ipswich, was very fully attended. The Earl of Stradbroke took the chair. The subscriptions for the Albert Memorial College were announced to amount to nearly 9,000*l.* It was resolved that an executive committee of twenty-three members be appointed, and that in addition all subscribers of 500*l.* be *ex officio* members.

*An Ipswich Memorial.*—It has been resolved, at a public meeting convened by the mayor, to found a scholarship in connexion with Queen Elizabeth's Grammar School, in Ipswich, to be called "The Albert Scholarship." His Royal Highness laid the chief stone of the new school buildings in 1851.

*Plymouth.*—A subscription of 100 guineas is in course of being made up here for the purpose of obtaining a copy of the Prince's robed portrait, by Winterhalter, at Buckingham Palace, to be placed in the Guildhall. The portrait will be 8 feet 10 inches by 5 feet 10 inches in dimensions, and is to be done by Mr. Carden, who has already made copies of the Prince's portraits. The price of the copy will be eighty guineas; frame, twenty guineas.

## COMPETITIONS.

*Bicester Church.*—With reference to the proposed restoration of Bicester Church, the committee have selected the designs of Mr. Beazley, of Upper Gower-street, London.

*Oxford Workhouse.*—At a special meeting of the local board of guardians, last week, to decide upon the plans, a discussion took place as to whether the report of the architect applied to should be published. The Rector of Exeter moved that the report be regarded as a confidential communication to the board; which motion was ultimately carried by 13 to 7; after an amendment, that Mr. Aickin and the three competing architects be consulted before the report is published, had been rejected by 11 votes to 10. The report was read by the chairman. It was of great length; and, having described the merits and demerits of the plans submitted to him from Messrs. Fisher, Seckham, and J. Castle, recommended the Board to adopt Mr. Fisher's; and to make certain alterations which he (Mr. Aickin) had marked in pencil upon the plans themselves. The Rector of Exeter then moved that a letter be written by the clerk to the editors of the three Oxford papers, to the effect that the board regarded Mr. Aickin's report as a confidential communication, and on that ground had decided that it should not be published. Alderman Towle seconded the motion, which was carried by 11 votes to 9. Dr. Adams moved "that the second plan of Mr. Fisher be adopted." In passing that resolution, he said, they would not decide that Mr. Fisher was the architect; or that he would have the reward offered for competition; unless his plans could be carried out by a competent builder for the sum specified. The motion was carried unanimously. Mr. Adams then moved "that it be referred to the Building Committee to consider and decide on the alterations suggested by Mr. Aickin." The alterations alluded to, he remarked, did not affect the main building, but had reference to the internal arrangements of the proposed new house. This motion was also carried unanimously. It was stated that Mr. Aickin's professional charges against the board for examining the designs amounted to 23*l.* 10*s.*

## THE GALLERY OF ILLUSTRATION.

The new entertainment produced here on Monday evening last, called "The Family Legend," is the work of Mr. Tom Taylor, and approaches more closely the drama than any that has yet been given. It includes a number of characters,—English, Scotch, Welsh, Irish, and French; and is pleasantly relieved by a variety of new ballads, concerted pieces, and selected music, calculated to display the abilities of Mr. and Mrs. German Reed and Mr. Parry to the greatest advantage. Mrs. Reed's *Babette* (a Bretonne) and her *Elsie* (a mad wanderer); Mr. Reed's *Pilkington* (a British butler on his dignity); and Mr. Parry's personation of *Mr. Warble* (a poetical traveller), are as admirable in respect of acting as anything that has been seen for a long time. The writing, too, is very good, quite worthy of Mr. Taylor's reputation; and the scenery, by Messrs. Grieve & Telbin, beautiful. The action is laid in a Gothic house at Dinas-y-Coed, in the winter, Snowdon and Llanberris being seen outside by daylight and moonlight.

In half a dozen words, "The Family Legend" is a very charming entertainment, and ought to prove a great success.

## HEMSTED HOUSE, KENT.

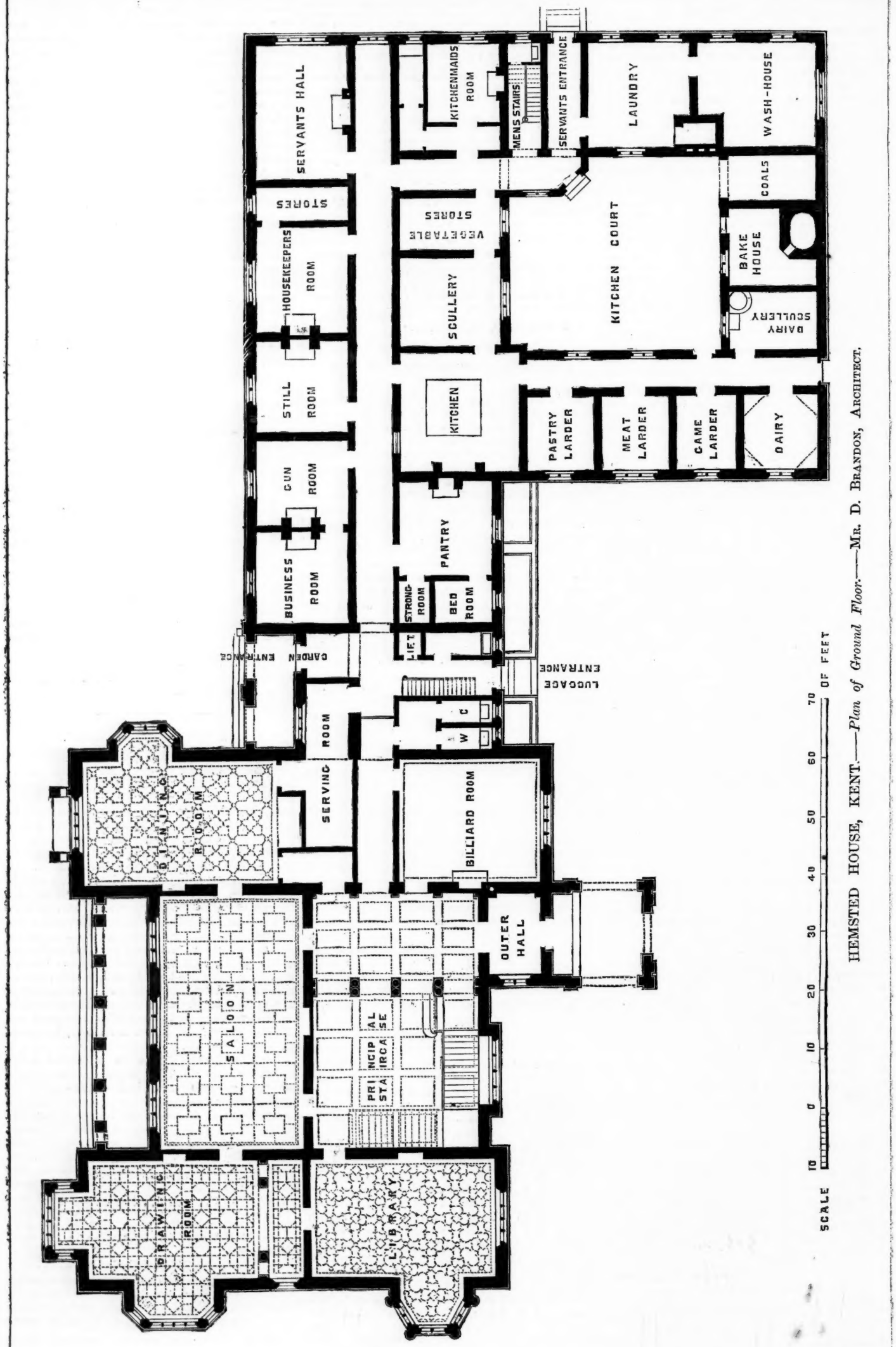
We add, as promised, a plan of this mansion.* The principal rooms facing south and east overlook a terrace 110 feet wide, from which there is a flight of steps descending into a well-wooded park, and they command views of picturesque distant scenery. From the top of the tower may be seen the coast of France and extended panoramic views of the surrounding counties of Surrey, Sussex, and Essex. On the west side of the house, but not shown on the plan, there are coal-stores, carpenters' sheds, game-larders, &c. &c. In the basement story are general stores, wine and beer cellars, clothes-brushing room, and a furnace-room containing a boiler and pipes for warming the staircases, corridors, library, billiard-room, saloon, drawing-room, and dining-room. On the first floor there is a boudoir, school-room, nurseries, family and visitors' bed and dressing rooms, two bath-rooms, &c. &c.; and on the second floor on the south and east side similar bedrooms and dressing-rooms; and on the north side, bedrooms for female servants.

Local traditions relate to a moated house or castle said to have stood in the centre of the grounds now laid out as pleasure-gardens; but no remains of any foundations have been found. A strong spring of water still exists, which it is supposed supplied the moat; but now feeds a sheet of water on the west side of the park. It seems probable, however, that a structure of some importance once stood there, as a fine avenue of elm-trees leads up to the spot. On an adjoining mound is a tree, said to have been planted by Queen Elizabeth, commemorative of a visit to the then owner of Hemsted, who held office in the royal household.

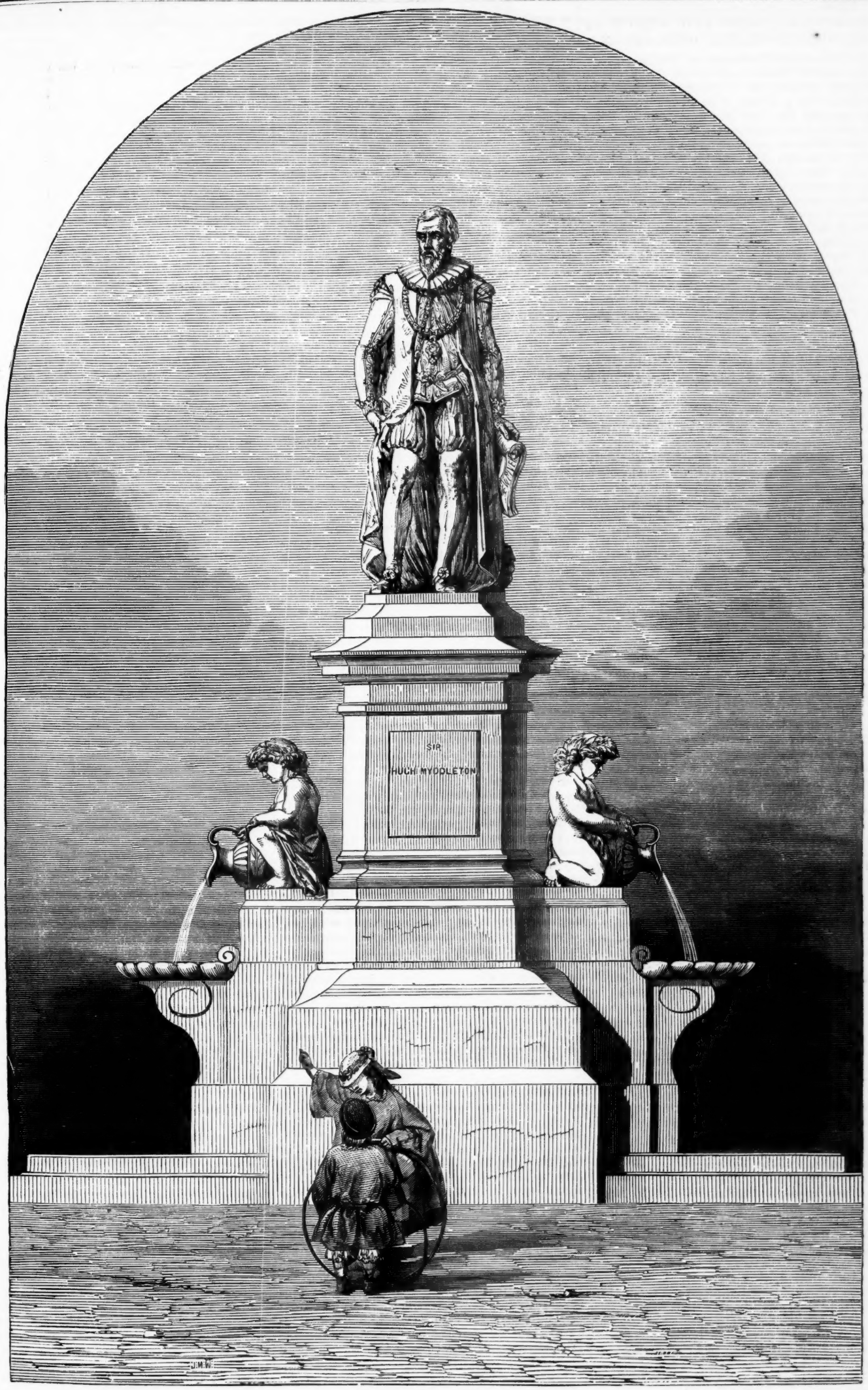
Without going into particulars of what has or has not been spent here, which might not be agreeable to the owner, we may state as a guide for some inquirers that the cost of such a mansion as we have here illustrated, may be put at about 23,000*l.*

---

* See p. 242, *ante*, for view and description.




HEMSTED HOUSE, KENT.—*Plan of Ground Floor.*—MR. D. BRANDON, ARCHITECT.




DRINKING-FOUNTAIN, AND MEMORIAL OF MYDDELTON, ISLINGTON GREEN.

MR. JOHN THOMAS, SCULPTOR.

## DRINKING-FOUNTAIN AND STATUE OF MYDDELTON ON ISLINGTON GREEN.

AT the southern extremity of Islington-green, where the old Watch-house stood, the basement has been erected for a drinking-fountain, surmounted with a statue of Sir Hugh Myddelton, who brought the New River to London. It is designed and executed by Mr. John Thomas, and promises to be an ornament to the district. Myddelton is attired as a wealthy merchant of the period. The statue is executed, as are those of the boys below, who pour water from beakers, in Sicilian marble. The pedestal is of granite, the basement Portland stone.

Sir S. M. Peto, Bart., with his usual liberality, contributes the figures: the other parts will be paid for by subscription amongst the wealthy inhabitants of the neighbourhood. The height of the figure is 8 feet 6 inches; the total height of the structure about 21 feet. The entire cost is about 1,000*l*. The Goldsmiths' Company give 50*l*.

## PROFESSOR SMIRKE'S CONCLUDING LECTURE ON ARCHITECTURE, AT THE ROYAL ACADEMY.

LECTURE V.*

In the vaulted corridors of the great Flavian amphitheatre we have a remarkable instance of correct judgment. These corridors are strictly consistent in character with the enormous building of which they form a subordinate part: they, in fact, appear to have become not only the type and model on which all other works of a like nature were subsequently erected, but the fertile parent, also, of those beautiful arcades which so frequently court our admiration, both in ancient and modern Italy. These are, it is true, pre-eminent examples which I have cited, and it may be thought that noble works of the highest grade of art offer no available materials for our imitation or study in fulfilling the humbler tasks that fall to the lot of most of us. It is not so, however: a right principle is applicable alike to great things and small; and I consider that the rule which I have ventured to enunciate—that in all works of architecture every passage or ante-room should be conformable in style, yet subordinate in treatment, to the apartment to which it leads—is of universal application. Let us now proceed to those apartments towards which we have been so long advancing.

There are few objects connected with our art that have been more frequently dwelt on by those who have undertaken to be our guides and monitors than the right proportions to be given to a room. Vitruvius led the way, and subsequent theorizers have laid down—sometimes very dogmatically—their views of just proportions.

I find, however, in the actual practice of the ablest men, such extreme diversity; and I observe pleasing effects producible by the adoption of such widely different proportions, that I confess myself to be somewhat incredulous of all these theories.

Certainly, if beauty could thus be reduced to a formula, and the proper relation indisputably established between the length, breadth, and height of a room, a royal road would, indeed, be cleared for us, most convenient both to those who teach and those who learn. But I cannot hope to furnish you with such a desirable help in your studies. I find rooms of universally admitted beauty, yet of almost every geometrical figure. I have heard the room called the Tribune, in the Museum at Florence, spoken of in terms of rapturous approval for its beautiful form and proportion: this is an equilateral octagon on plan. I have known square rooms greatly admired—for example, the central hall at Cobham is spoken of as the *chef-d'œuvre* of Inigo Jones: this, if I remember rightly, is a cube of 40 feet. Who is there that is not charmed with the proportions of the Pantheon, at Rome? This, you know, is circular; whilst the Sistine Chapel, upon which all the best art of Italy in its best days was expended, is a triple cube—viz., 133 feet by 44 feet. The truth, I believe to be, that so bounteously have we been endowed, and so liberally have the laws of beauty and proportion been framed, that there exists, in fact, an endless variety of beautiful forms and proportions.

It is, I think, as little consistent with truth to lay down any one definite proportion as the best, as it is to extol any one particular curve as the line of beauty. Harmony in form is as infinitely various as the harmonies of colour and of sound.

The purpose of a room must always be an important guide in determining the form and proportions of it. The octagon form, for instance, so much affected by our ancestors in planning their chapter-houses, owes its origin, probably, far more to the propriety of that form for a chamber destined for the assemblage of the members of the chapter, sitting in council, than to any intrinsic architectural beauty.

This fitness to its purpose should obviously be among our very first objects of consideration. But it is the diversity of those objects to be kept in view which complicate the task of an architect, and render it often very difficult.

In a public hall, for example, he has to consider not only its agreeable proportions, but its acoustic properties, its aptness for seeing, its capacities for lighting and ventilation, the most serviceable distribution of its means of ingress and egress, and many other considerations, among all of which he has to attach to each its relative importance, and to determine to what extent one object may give way to another, and where a sacrifice can best be made.

Unfortunately for the architect, whilst these conflicting considerations are taxing his judgment, the critic stands by, regardless of all these embarrassments, and tests the beauty of our work by the inflexible rules of the dogmatist on whom he may have happened to pin his faith.

In planning an apartment, as in planning a house, we must consult the genius of the place. There are occasions when a simple, geometrical plan would be most suitable; and there are also occasions when too great symmetry is to be avoided. In rooms intended for social uses, convenience, as well as beauty, alike suggest variety in boundary lines of the room. The deeply-embowed recesses that occur so often in our old domestic architecture are a source of great beauty and interest, varying the lights and shadows, and breaking the monotony of parallel lines. The oriel window of our old halls, whatever may have been its purpose, is always a pleasing feature, and the deep bays in the galleries of those picturesque buildings happily compensate for their usual narrowness. "These be pretty places for conferences," says Lord Bacon; and his remark, in a lively and agreeable way, truly indicates the commodiousness of those cheerful recesses. The Italian masters, struck by the dryness of a plain rectangular form of room, adopted not unfrequently a very happy mode of concealing or obviating that effect, by converting the upper part of the square room into an octagon supporting the angle walls by arches or pendentives, and so leaving the rectangular area unencroached upon. This contrivance is, in truth, of early date. At the Castel del' Novo, in Naples, is, or was, a very fine hall wherein this expedient is most effectively carried out.

This mode of growing an octagon out of a square led to a variety of contrivances for the due decoration of the couch, or spandrel space, formed by the overhanging of the four diagonal walls, among which, perhaps, the most ingenious and elaborate were the pendentives devised by the Saracenic artists; a multitude of miniature groined arches, rising in successive tiers, and corbelling over so as to form those singular stalactitic ceilings so characteristic of Moorish architecture.

The remains at Pompeii, and, indeed, of Roman art over all Europe, show that the semi-cylindrical vault was the most usual mode of constructing ceilings in the Classic era; varied, often, however, by groining.

This diagonal vaulting was very dexterously executed by forming the intersecting lines of the groin in a careful, solid manner, filling in the spandrel spaces less carefully and with lighter materials, such as tufa and volcanic scoria. It was this mode of construction, no doubt, which led to the Mediæval mode of vaulting, the intersecting diagonal lines being more emphatically pronounced by wrought and moulded ribs. As at the Coliseum, Pantheon, and other Classic vaulting, we find the spandrel spaces executed on this principle, so in Mediæval buildings chalk and even calcareous tufa (as at Glastonbury Abbey) were similarly used.

It is not, however, to be forgotten that flat timber ceilings were occasionally executed, not only during the whole Mediæval period, but even from earliest Classic times, also, builders so wrought. The Homeric writings abound with allusions to timber ceilings, with beams painted in bright colours, and even incased in plates of metal work; but we can now only trace indications of the existence of these timbers in the apertures left in the masonry for their reception.

In later Classic times representations of flat timber ceilings occur not unfrequently in frescoes. In the fifteenth century (by far the most actively inventive period of modern art) Italian architects contrived an entirely novel form of ceiling, for which no preceding school of art had furnished the slightest precedent. They reconciled the convenience of a flat ceiling to the more elegant form of the vault, by adopting the cove, or half-vault. This was first executed in wood, the earliest examples of which, so far as I know, are at the Palace of the Academy at Venice.

Afterwards these coves became worked in plaster—a mode of construction which hardly bears date earlier than the beginning of the sixteenth century. Attempts are made to obtain a similar effect, in a more truthful mode of construction, by turning in masonry extremely flat elliptical vaults. But Sansovino, who ventured on this expedient at the Library, in Venice, was thrown into prison, and fined 1,000 scudi for its failure—a fate which must have powerfully operated on the minds of his brother artists in overcoming their scruples about plaster coves.

Another mode of forming ceilings which was much practised by early Italian artists was to frame them in deep coffers or panels, wholly of wood, often richly carved, painted, and gilt.

I know few palatial apartments equal in grandeur of effect to the great halls of the palace built by G. Romano, at Mantua. They are for the most part of this trabeated construction, and the gigantic force of their coffers, relieved by the extreme richness of the carving, proclaims the master hand of the great master who designed them. In the nearly contemporary flat, panelled ceilings, executed in England by Holbein, as in the Chapel Royal, St. James's, we have but weak and faint imitations; yet, even these are almost bold when compared with the tame and poor panelling of later times. The stuccatori of the last century introduced with some success a more free and artistic treatment of their material, but their art ultimately succumbed and gave way to plaster casting of the feeblest kind.

Having briefly touched on the subject of the forms and proportions of rooms, we will now pass on to the equally important subject of giving light to them.

So much of the architectural effect of a building for whatever purpose it may be destined, and so much of its aptness and convenience, depends on the mode that may be adopted of giving light to it, that it is certainly a matter demanding your special attention and study. The more so, because no general rules can be laid down for the proportioning of windows to the area they have to light.

Much, obviously, must always depend on the purpose of the room to be lighted; much also on the nature of the medium through which the light passes; much on the position of the windows; and, above all, perhaps, upon the degree of intensity of the light obtainable from without. The practice of Italy, for example, would be a very unsafe guide for us in our uncertain climate and sombre atmosphere. Here the most ample panes and the clearest glass will often hardly suffice; whilst, in Italy, such is the penetrating fervour of the sun's rays, that sometimes men are content, as at Saint Miniato, near Florence, with the light that can make its way through slabs of alabaster in lieu of glass. We know, indeed, that lapis specularis was much used for this purpose in Classic times. Then, again, the light which is obtainable in an open country and in a crowded city obviously must require totally different proportions, whilst a window filled with stained glass will need, in order to afford a given volume of light, an extent of perforated surface that would be altogether disproportionate where clear glass is used.

In the absence, then, of any definite rule, it becomes especially necessary, by habitual observation and comparison, to learn our wants and our resources.

I last week adverted to the importance of the study of the effects of light and shadow in the design of exterior architecture; at least equal importance is to be attached to this consideration in interior design.

In the production of all great effects, chiaroscuro plays an important part, whether it be in a building or a picture. The quality of grandeur depends not merely on largeness of dimensions, but on general treatment, and especially on the treatment of this chiaroscuro. When the form of an apartment is simple, rectangular, for example, the impression of grandeur can perhaps only be effectually produced by real size; but when the form is complex, a new element of grandeur arises in the diversity and breadth of its light and dark parts. It is to this, far more than to any other cause, that we are to attribute the powerful impression made on the mind by the interior of a Gothic cathedral; the burst of light from the

* See page 234, *ante*.

transept breaking the monotonous effect of the nave; the light on the screen brought out into prominence as seen in contrast with the dim haze of the choir beyond; the splendour of the clerestory, as opposed to the comparative gloom below; these are all effects wholly due to chiaroscuro, and constitute the chief charm of those fine architectural compositions. It has always appeared to me a subject of regret that the undue interference of incompetent judges prevented Sir Christopher Wren from carrying out his first and perfectly original idea for St. Paul's Cathedral, where the effects produced by the double vaulted aisle, surrounding the octagonal nave, would have been truly surprising; my conviction is that had that design been carried out an interior architectural scene would have been the result, wholly unparalleled in any building in Christendom.

The present is, of course, not a proper occasion for discussing the utilitarian requirements of a room. No doubt an apartment destined for pictures must have its light admitted far differently from a room where sculpture is to be exhibited, and both widely differ from the requirements of an ordinary living-room. But these are questions, although of high importance to every student, which must not here engage us.

There are, however, purely æsthetic considerations connected with this subject of the admission of light, which are, it appears to me, perfectly fit to be entertained within these walls. Very forcible effects are produced by mere contrast in the degree of light admitted. When an apartment is desired to be specially marked by a gay and festive character, the eye should be prepared by subjecting it to a comparatively dim light. If, on the other hand, a solemn effect is to be aimed at, that object is promoted by previously subjecting the eye to a strong light. I have been frequently struck by the far greater effect of solemnity produced on the mind by entering a cathedral direct from the clear, external air, than when entered from the cloisters or chapter-house, where the eye has already got somewhat accustomed to a subdued light.

Indeed, for every great architectural scene, it is well that the eye should be duly prepared. I think it may be broadly stated that a high light is, for almost every purpose, more pleasing than a low light. This is more especially the case when a grand or broad effect is aimed at. By lifting the windows above the ordinary range of vision, the intensity of the light is subdued, and a quiet effect is produced. The sombre light so striking in the early basilicas of Italy is due to this arrangement. No doubt much of the charm of those remarkable buildings is attributable to the unaffected symplicity of form which distinguishes them from the theatrical straining at effect, the multiplicity and complexity of parts, the architectural flutter, which are apt to characterize later Mediæval works. Still, this pleasing sobriety of form is greatly enhanced by the mode of admitting the light. I will refer you to another illustration, and that of a comparatively modern date, to show you that the principle which I urge on your attention is irrespective of style. At Milan, the ante-chapel of a church, probably of the sixteenth century, is appropriated as a mausoleum for the family of the great Condottiere Trivulzi. At a considerable height from the pavement are deep recesses, which receive the sarcophagi, and over all is the clerestory. The only light, therefore, that this lofty ante-chapel receives is from above, and the effect is extremely impressive. A brief inscription on the walls, alluding to the active life of the great commander, is in excellent keeping with the repose of the scene:—

(Be silent! for he who never rested, rests.)

I have now sufficiently brought before you the importance of the study of proportion and position of the lights; but yet another essentially necessary consideration remains; I mean the colour and texture of the walls to be lighted. Whether these vertical surfaces are themselves light or dark in tone; whether of a nature to absorb or to reflect light, are circumstances never to be overlooked. We all know practically, when a room has to be lighted up artificially, how much the requisite number of lights depends on these accidental circumstances.

Observe the strong light produced by a single taper in a room with white walls, and compare it with the dim glimmer obtained from the same taper in a room papered with a dark red paper.

Of course the same must hold good in the case of daylight. If, therefore, we have dark walls and furniture it behoves us to have large windows.

You perceive, then, how futile and empirical would be any rule for determining the proportion of solid to void in the external wall of a room. It is, in truth, experience derived from habitual, unremitting observation that can alone safely guide us.

"There are rooms," says the great observer, Bacon, "where you cannot tell where to become to be out of the sun or cold;" and the excess he condemns is, doubtless, a serious fault; but I believe, generally, that an excess of light is a less serious fault than a deficiency, for, in the one case a variety of means present themselves of remedying the defect, whilst the other is not so readily curable.

I have now touched upon some of the more material subjects of inquiry in the interior disposition of a building.

The subject is too large to admit of being treated on in detail in this place, and it would lead us out of the sphere of æsthetics to which I am limited. Nor shall I now enter upon the wide field of interior decoration. I will confine myself to the laying before you a few remarks on the general treatment of interior architecture.

I am afraid I venture an opinion at variance with general practice when I express my conviction that the introduction of a complete order into the interior of a building is a solecism and an indefensible inconsistency.

An entablature, as usually composed, seems essentially a piece of external architecture. The triglyphs of a Doric frieze, for example, are but the ends of the timbers of a floor or roof, and a cornice is but the overhanging extremities of a roof. To introduce these features, therefore, within, seems almost irrational. I know of no evidence of this practice having prevailed among the masters of Greek art, until that art had lost its youthful purity, and the original intention of the several component parts of an order had been lost sight of. At all events, I think that these features of exterior construction should be avoided within ordinary apartments. I am aware that this dogma, carried out to its full limit, would extend to the condemnation of labels, or dripstones, and battlements, and other details exclusively derived from external architecture. Nor do I see that such can be defended when introduced in the interior, except on the ground that these solecisms prevailed at the best periods of art, and are productive of great richness of effect.

At all events, I would counsel you to be on your guard against a too ready aquiescence in the ordinary practice of applying to the interior of buildings the forms and features of exterior architecture.

Nor need the exclusion of these rigid forms in any way embarrass us. Before "paint and paper" had usurped their undivided dominion over the decorators of our apartments, our ancestors resorted to many means of internal mural ornamentation—means, possibly, more costly, but certainly more worthy of the dignity of art.

Tyre supplied its rich drapery to embellish the walls of Roman buildings, and following in the steps of Egypt, Assyria, and Greece, the artists of Rome loved to depict their fairest forms and most brilliant conceptions on the walls of their rooms. Inspired by the example of Eastern art, the founders of ecclesiastical architecture encrusted their walls with mosaics. The looms of the East, also, furnished them with rich hangings, rivalled afterwards by the weavers of France, of Flanders, and of England. But the too general demand for economical decoration in latter times has created whole branches of mechanical manufacture to supply the place and mock the semblance of more durable solid and real enrichment. Costly hangings are represented by fabrics manufactured by the mile, and the most precious woods and marbles are reproduced by the simple apparatus of the paint-brush and the varnish-pot.

It is now necessary that I should draw these desultory observations to a close; and in thus concluding my addresses to you, at all events for this year, I cannot do so more satisfactorily than by giving you a few words of hope and encouragement. I have, in the course of the season, brought to your notice many noble works and many distinguished men; let these examples excite your emulation and quicken your zeal; and especially do I hope that my faltering though earnest words may animate those among you, students of the Royal Academy, whose fortune it may be to encounter early difficulties. Let those difficulties be regarded as a call upon your patient exertions, and let them be the earnest of your ultimate success.

It was remarked to me by an eminent writer and acute observer of nature, in Canada, that those trees ever produced the best timber which, lying on the unsheltered outskirts of a forest, were consequently most exposed to the vicissitudes of climate and most agitated by storms and tempests. So it is, perhaps, that by similar trials the young mind is hardened and nurtured into a firm and vigorous maturity. I might detain you long by a view of the early struggles of great minds, from Giotto, who first imbibed the principles of that art by which he achieved an immortal name, whilst he "tended the homely, slighted, shepherd's trade," down to our own Turner, whose earliest aspirations of genius were breathed amidst the uncongenial obstacles and objects of his humble origin.

The annals of genius are, indeed, full of such examples. Nor let these experiences be lost, even on the youth who may be conscious of less elevated powers. We well know that all cannot be first in the race. Yet the history of art records many an instance of men of very moderate claims to the character of genius, whose useful labours have placed them in a highly honourable position. To such men, a steady, well-directed, and judicious application of their natural talents, united with an open, frank, and honourable conduct have secured for them that reward to which higher genius has often failed to attain.

## THE DRAPERS' ALMSHOUSES, CRUTCHED FRIARS.

THE almshouses erected and endowed by direction of Sir John Milborn may be considered worthy of note at a time when they are about to disappear. Many who have wandered in this ancient district, by a sight of the quaint picturesque building, have had their thoughts taken back to other and far different times from those in which we now live. The stone carving, well executed, of the Assumption of the Virgin, over the Tudor gateway leading towards the pleasant little garden,—the shields, with heraldic devices,—the old-fashioned roof, and dark, rich, red-coloured brickwork,—formed a picture well remembered by many. The church and other parts of the establishment of the Crutched Friars stood close to these almshouses. The ground on which the church and monastery of this order were built was of considerable extent, and was purchased, for what seems now to be a very small sum, from the Prior of the Holy Trinity, London.

In 1521 Sir John Milborn was Mayor of London; and he had for several years been chosen master of the Drapers' Company; which was then, as it had been for some centuries previously, a most prosperous society. Fitz Alwin the first Mayor of London, left lands in the care of an association of drapers; and the city records show that there has been a larger number of drapers elected to the honourable position of chief magistrate of the metropolis than has fallen to the lot of any of the other great liveries.

Sir John bought the land on which these buildings were erected from the Crutched Friars; and after his death, in accordance with the instructions given in his will, thirteen decayed members of the Drapers' Company, or *bedemen*, who occupied the thirteen almshouses, proceeded daily to the adjoining church, to pray at the tomb of their benefactor, who was buried in that place. Heart-burnings and disputes, however, happened between the drapers and the monks, which only ended when the monastery was suppressed. After this the church seems to have been allowed to fall into decay; and eventually the body of Sir John Milborn (and probably some of the other persons who were laid here) was removed.

In John Stowe's time, where the church had stood, there was a carpenter's-yard, a tennis-ground, and such like; and the friars' hall was made a glass-house, wherein "was made glass of divers sorts to drink in." At this time wood, instead of coal, was used in the manufacture of glass; and it is likely that wood and charcoal were chiefly used at that time for manufacturing purposes. In this instance, Stowe tells us that in September, 1575, a terrible fire broke out in this glass-house; which raged with so much force, that all the means which were practised failed to extinguish it, until all except the wall had been totally destroyed. For some time before this event, large quantities of wood had been stored for the use of the glassmakers. By this fire 40,000 billets of wood, which were stored in the old hall, were entirely consumed.

In glancing at the past history of London, it will be observed that the glassmakers had taken possession of several of the ancient buildings. We have here the instance of the Crutched Friars; and it is well known that this important manu-

facture was carried forward in part of the Black Friars' monastery, where the *Times* printing-office now is. There was also a glass-house in part of the Savoy Palace, in the Strand. The history of glassmaking in the metropolis has much interest, and is a subject to which more careful investigation might be usefully given than has yet been bestowed upon the matter.

There were some other charitable bequests which were made by Sir John Milborn, which, according to Stowe, were misappropriated. We trust, however, that the necessity which has caused the removal of the almshouses will be the means of providing a more salubrious situation, and a building better arranged, so far as sanitary arrangements are concerned. The old gate and the sculptures should be preserved and incorporated with any future structure devoted to the uses of this charity.

When it is considered how great has been the increase of the value of lands and tenements during the last two or three centuries; and that the property which has been left by persons for benevolent purposes has in some instances increased tenfold in value; it is a matter for regret that there are so few cases of the proportionate expansion of the donors' original idea. The number of poor persons who were to be provided with certain advantages in their old age and poverty is seldom increased, although the money means have become ample for the purpose.

## PROPOSED STATUE OF THE LATE SIR CHARLES BARRY.

AN erroneous statement having appeared in some of the newspapers, it may be as well to say that the memorial intended to be placed on the staircase at the Houses of Parliament has not yet advanced beyond the sketch-model. Mr. Foley, the sculptor commissioned to execute the statue, has submitted to the committee a model of a standing figure and one of a sitting figure. The latter, having reference to the position it is to occupy and the light available, is preferred; and, unless the Fine Arts Commissioners (whose assent has been applied for) object, will be executed. The seated figure is to measure 5 feet in height, the pedestal 4 feet; together, therefore, 9 feet high from the pavement. The cost of the figure, exclusive of pedestal, will be 900*l.*

## WORKS IN MANCHESTER.

*The Assize Courts.*—This new and extensive Gothic edifice approaches completion externally. The cost will be about 100,000*l.* The architect, as our readers know, is Mr. Alfred Waterhouse, of Manchester. The courts extend 270 feet in length by 170 feet in depth. The principal façade is to the west in Great Ducie-street, and another is on the south, in Southall-street. The north end abuts upon the judges' lodgings, a structure now nearly completed, and separated only from the main building by a court-yard. The general character of the buildings is of the period between the Early English and Decorated. The arrangement places the two courts and a hall, together with a tower, in the centre of a range of buildings three stories in height. The principal façade of the courts comprises a central and projecting entrance, 46 feet in length and 14 feet deep, with flanks, each 75 feet long, and a pavilion at each end. The basement story rises very considerably above the ground; succeeded by the principal story on the level of which are the great hall and courts. The upper story, in which are the chancery court and grand jury room, is succeeded by a high-pitched roof; the grand entrance, however, being finished with a gable. The principal story is reached through the chief entrance by twenty-eight steps in two flights, the visitor passing under a double-recessed open portico, 36 feet in depth, formed by a double tier of three arches each, which are supported by shafts of Dalbeattie grey granite on massive bases. The central entrance is supported by this portico. The portico leads by three doorways, formed by the arches into the great hall, which is 100 feet long by 48 feet 6 inches wide, and 75 feet high. It will be well lighted by traceried windows, and the roof will be of open timber. From this hall admission to the courts can be gained by the direct entrances, or by the corridors which run around the building. The crown court is to the right, the civil court to the left. Each is in size 59 feet by 45 feet, and lofty. Between the two courts will be consultation-rooms for the judges. The tower will rise 210 feet from the ground. It will consist of a plain panelled shaft, finished with gablets flanked by turrets, and a pyramidal roof. The judges' lodgings are situate between the north end of the building and Cottam-street. The principal front is towards Great Ducie-street. The building covers an area of 92 feet by 98 feet, and is composed of three stories in the front and four in the back. The architecture is in keeping with the style of the courts. The building will be warmed and ventilated on the plan of Messrs. Haden.

*Sheffield Trade Driven to Manchester.*—It cannot be very surprising to those who have heard of the trade outrages at Sheffield, during some years past; consequent upon any attempt to introduce improved machinery; to find that the particular trade which has distinguished that town is no longer likely to be confined to it or its locality. A Patent File Machine and File Manufacturing Company has been established here, at Ardwick, one of the suburbs of the city. A good deal of the machinery in this establishment is the invention of Mr. Francis Preston, of Manchester: it is to supersede hand labour, and a large portion of it is worked by steam. About three years ago Mr. Preston invited the then Master Cutler of Sheffield, the Mayor of Sheffield, and some of the leading firms of that town, to inspect his machines; and offered to make terms with them for the introduction into Sheffield of this machinery; but they informed him that they really dared not introduce it into the town.

*School of Art.*—The annual meeting has been held at the Royal Institution, Mosley-street. The chairman stated that, in addition to the retirement of Mr. Hammersley, the head master, other changes had been effected. There could be no doubt, he said, but that the institution was doing a large amount of good. It was stimulating art-education, and thus shedding beneficial influence over a very wide circle. He looked at its effect upon the working population as very cheering. The report stated that the recently-appointed head-master, Mr. Mückley, would direct the attention of his students to the necessity of drawing from natural foliage and flowers. A class for the study of the draped living model would also receive his special attention. The outside schools, under the management of Mr. Rome, continued to give the advantages of art-education to a wide and extending circle; whilst the central school would still continue to have the benefit of the labours of Mr. John Evans, as second master, and Mr. Robert Routledge, as teacher of mechanical, architectural, and perspective drawing. The expenditure during the year had exceeded the receipts. No systematic canvass had been made for some years past to increase the subscription-list; and no reliance could be placed on aid from voluntary and unsolicited sources. The subscription list had, therefore, continued to decline; and there was also a reduction in the amount of fees received from students. The committee did not doubt that considerable increase would take place in this item when the new arrangements were in practical progress. The meeting acknowledged the services of Mr. J. A. Hammersley, as head-master for nearly thirteen years; and wished him happiness and prosperity in his new sphere of action at Leicester. A cordial welcome was also accorded the new master, Mr. W. J. Mückley, of Wolverhampton.

*St. Stephen's Church, Chorlton-on-Medlock.*—On Saturday and Sunday, 22nd and 23rd March, services were held at St. Stephen's church, Chorlton-on-Medlock, on the occasion of formally opening the new chancel and the new organ. The enlargement of the church has been effected at a cost (including the organ) of more than 1,100*l.*, and has been carried out under the direction of Mr. John [illegible], of that city, architect. The church is cruciform in plan, and has been very much improved, according to our authority, the local *Courier*, by this addition; while free accommodation receives the entire benefit of the enlargement. There are now nearly 500 sittings appropriated to the use of the poor. The new organ, which has been built by Messrs. Conacher and Co., of Huddersfield, at a cost of 325*l.* is placed in a chapel on the north side of the chancel. The case is in accordance with the architecture of the building: the front pipes are diapered.

*St. Paul's Church, Chorlton-on-Medlock.*—This church has been consecrated. A large proportion of the building fund, according to the *Guardian*, has been made up of small sums collected in the district. The church consists of nave and aisles (with clerestory), chancel, vestry, a porch on the south side, a porch and gallery staircase at the north-east corner, with a tower at the east end of the south aisle. The building is in the Gothic style of the Perpendicular period, faced with stone on all sides, and the tower will contain a bell and clock. The east window is filled with stained glass; and the compartments represent three scenes from the life of the Apostle Paul. The circular window in the east end gable is also of stained glass, and contains emblems of the four Evangelists. These windows were presented by Mr. John Robley. Upon the west end window (the gift of Mr. Edmondson) are half figures of the four greater prophets. Except in the pews, the floors are paved with Minton tiles. The gas-fittings were given by Mr. John Gray Bell. The font is of Bath stone. A portion of the chancel wall has been fitted with ornamental panelling, and the chancel contains seats for the choir on each side. Accommodation is provided for 615 persons on the floor, and 470 in the galleries. The building cost about 4,500*l.* A parsonage-house will be erected at the west end. The architects were Messrs. Clegg & Knowles, of Manchester, under whose superintendence the works have been carried out.

*New Wesleyan Chapel at Cheetham.*—The new Wesleyan chapel at Rydal Mount, Waterloo-road, Cheetham, has been opened for Divine service. The building is in the Early English style of architecture. The extreme height is 67 feet; the length 68 feet; and the width 50 feet 6 inches. Two octagonal turrets, rising to a height of 30 feet above the roof, are placed on either side. The chapel is capable of accommodating about 600 persons. The interior is fitted up with open seats. The aisles are paved with encaustic tiles, but there is little other ornament. The whole cost of the construction has been 2,600*l.*

*Proposed New Wesleyan Chapel in Rusholme.* The foundation-stone of a new chapel in Rusholme, for the use of the Wesleyan Methodists, was laid on the 29th of March. The style of architecture will be Gothic, of the Geometric Decorative period. The facing of the external walls is to be of Pierrepoint stone, with dressings of Hollington stone. The roof will be open, and will have a span of 43 feet. The principal entrance will be from Dickenson-road, through moulded doorways. The bays are to be divided respectively by buttresses, and will contain side windows of two lights, with traceried heads. Over each of the two entrances is to be a gable, containing two other two-light windows, intended to afford light to a future gallery at the western end of the building. The front will consist of a gable, divided by buttresses into three compartments; the centre containing a triplet of two-light windows; and above these there is to be a five-light window, 12 feet wide by 21 feet high. The gable will be surmounted by a stone cross. The nave will be furnished with open seats, of plain design. At the east end will be the transept, measuring 69 feet by 25 feet: the gables here will project transversely from the nave, and will have a pair of couplet windows below a wheel window. This portion of the building will be supplied with vestries, and, for the present, will also be used as a school; but on some future occasion it will be converted into a north and south transept, to be respectively thrown open by cross arches into the nave. At the same time the nave will be extended eastward, and terminated by an octangular apsidal chancel, for which provision will be made by an eastern gable and moulded arch in the school wall. The chapel will contain 473 sittings; and, including the land, which has been purchased for 600*l.*, will cost about 4,000*l.*, of which 2,500*l.* have already been contributed. Messrs. Haley & Son, of Manchester, are the architects; and the contractor is Mr. Robinson, of Hyde.

## CHURCH-BUILDING NEWS.

*Reading.*—The Greyfriars church is to be restored at last, notwithstanding all alleged difficulties. Messrs. Poulton & Woodman, of Reading, are the architects employed; and they have already advertised for tenders for the works to be done. We doubt not that the visit of the British Archæological Association has had something to do with this satisfactory announcement, as it also had with the restoration of the Abbey gateway.

*Guildford.* — The subscriptions for the nave restorations at St. Mary's church, estimated at 1,520*l.*, have now reached about 1,000*l.*; but it appears from a circular recently published by the committee that an additional outlay is desirable on the eastern portion of the church, to the extent of 1,000*l.* more.

*Wickham* (*Hants*).—The parish church of this village, which has long been in a state of decay and dilapidation, has just undergone extensive repairs and restorations, at a cost of nearly 1,500*l.* The works commenced in June last, and consisted

of the rebuilding of the north transept, which was in an insecure condition; the addition of a tower at the west end, with wooden belfry stage, and small broach spire, covered with shingles, in place of the unsightly modern belfry; the substitution of open timber, boarded roofs to nave and chancel, instead of the lath and plaster ceilings; the introduction of new stone windows in exact correspondence with the old; and new seating of uniform height and design, in lieu of the old irregular pewing which formerly existed. The utmost care has been taken to preserve intact every feature of interest, and in no way to seek to modernize the church wherever any original feature could be preserved. The walls throughout have been faced with hopped flints from the neighbourhood, set in lias cement, with Bath stone for the several windows, quoins, strings, &c. New Bath stone arches have been inserted at the transepts, in place of the semicircular plaster arches before existing; and a new chancel arch has also been added, with carved capitals to the shafts, representing the passion-flower, vine, and wheat. There is a new pulpit of Bath stone, with serpentine marble shafts, and glazed encaustic tiles let in. Seats for the choir, with open traceried fronts, occupy the space between the pulpit and desk, westward of chancel steps. The chancel has been fitted up with plain stalls, facing north and south; and the vestry, formerly a chapel, in which are two large monuments, has been separated from the chancel by an open parclose, or screen. The floor of chancel is paved with red and black tiles in pattern. The fine peal of bells, removed from the old belfry, has been rehung in the new tower. Several memorial windows, by Mr. A. Gibbs, of London, have been inserted in the church; and another is about to be placed in the east chancel window, to the memory of the Misses Garnier, sisters of the present dean of Winchester. It may not be out of place to mention that William of Wykeham, founder of Winchester College, and bishop of the see, was baptized in this church. The works have been carried out by Messrs. Chinnock, of Southampton, builders, under the superintendence of Messrs. Francis, of London, architects.

*Bettiscombe* (*Dorset*).—The foundation-stone of a new church has been laid here. Mr. Hicks, of Dorchester, is the architect. Three old perpendicular windows left in the walls of the old church, according to the *Dorset Chronicle*, will form the type of the old structure; and, instead of having an unsightly gallery, accommodation will be provided on the floor for about 160 persons in open seats. The edifice will consist of nave, north aisle, and chancel; with a battlemented tower, a vestry, and a porch on the south side.

*Bath*.—The Argyle Chapel is about to be altered and improved. The walls, roof, galleries, and pulpit will be retained; but an increased height will be given to the front elevation; and another series of columns will be introduced: an alteration of the ceiling will be effected, with fresh ornamentation; and an entire repewing of the building. To Messrs. Hickes & Isaac is intrusted the supervision of the work as architects; and the outlay contemplated is about 1,200*l*.

*Woodchester* (*Gloucestershire*).—A new church, from a design by Mr. Teulon, is to be erected here; and the foundation-stone has just been laid. The edifice will consist of a nave, with north aisle, chancel, south porch, and tower. The greater part of the funds required for the building has already been raised by subscription. Four or five hundred pounds are still required.

*St. George's* (*Shropshire*).—An appeal for donations and increased subscriptions has again been made by the committee of the memorial church of the late Duke of Sutherland, now in course of erection at St. George's. No contract has at present been entered into for a tower and spire, which are required to complete the design; since the whole sum needed is 5,400*l*., while the total amount of the contributions promised is only 3,500*l*.

## PROVINCIAL NEWS.

*Worthing* (*Sussex*).—The pier here will be formally opened, it is said, on this Saturday, 12th April, on which occasion the two borough members and other leading persons will take part in the inaugural ceremony.

*Brighton*.—It is proposed to establish a fashionable place of resort by the erection of new rooms in the neighbourhood of Brunswick-square. The capital required for the building is 2,500*l*. The plans are being exhibited. There is to be a suite of three reading-rooms, from 30 to 40 feet each; a refreshment-room, &c.

*Dudley*.—The foundation-stone of the new dispensary, about to be erected in the Priory-road, has been laid. The building will be erected by Mr. Nelson, of this town, after a design in the Domestic Gothic style, by Mr. Thomas Smith, of Stourbridge. The plan includes all necessary offices and appointments, and a reserve of land to enlarge the building, when necessary. The building is estimated to cost between 1,500*l*. and 1,600*l*., including fittings and a residence for the medical officer.

*Bristol*.—The directors of the First Gloucestershire (Bristol) Volunteer Rifles Head-Quarters Company (Limited) are about to erect a shed for a drill ground for the Bristol Rifle Volunteers, to cover a space behind the Bishop's College, Park-street, Bristol, about 145 feet long by 94 feet wide, without centre pillars or supports. Plans are being advertised for.

*Exeter*.—It has been resolved to erect a new wing to the North Devon Infirmary, at Barnstaple, in honour of the late Earl Fortescue. The committee of the Fortescue Memorial Fund give 750*l*. towards the object. The cost, estimated by Mr. Gould, the architect, is 1,050*l*.

*Devonport*.—The Admiralty have taken possession of the extensive premises of Mr. W. C. Hare, at Stonehouse, for the purpose of enlarging the Royal Marine Barracks. There was a difference between the amount asked and the one offered, according to the local *Independent*; but, by arrangement, after inspection of the premises by the referee, Mr. Moss, of King William-street, London, 10,000*l*. was paid on account, and an agreement signed to pay such further sum of money as Mr. Moss might award.

*Hereford*.—The Corn Exchange of this city has just received the addition of a clock turret, fitted up with illuminated dials. The upper portion of the turret contains the bell, and is surmounted by a figure of "Ceres." The total cost of the works is about 250*l*. Messrs. Elmslie, Francy, & Haddon were the architects. The works were executed by Mr. William Benvan, builder; and the clock supplied by Mr. A. W. Bezant.

*Nottingham*.—The Odd Fellows of Nottingham have projected an "Imperial Hall," as it is to be called; to be built by a company, whose prospectus is about to be brought before the Nottingham public, together with the design and plan. Mr. Bakewell is the architect. The edifice will be in the Italian style. A portion of the exterior is intended to be faced with the best moulded bricks; but the Hollington stone from Staffordshire, which experience has proved to be adapted for resisting the deleterious atmosphere of our manufacturing towns, will be largely used as a facing for the ground story; for the windows of the upper story; and for the pilasters, columns, and cornices; together with the balustrading and finials. All the windows and doors of the exterior have circular heads, and the whole of the ground story will be executed in rusticated mason-work. The staircases will occupy the corners of the building, and are indicated in the drawing by slight projections. They are carried up a little higher than the main cornice; forming four pavilions or towers,—one at each corner; and the roofs are finished with an ornamental wrought-metal gilded cresting. Between the pavilions or towers the main cornice is crowned with a balustraded parapet, finished with a block and finials. The principal front on the ground-floor in Parliament-street will contain an arcaded corridor, from the right and left ends of which large stone staircases will lead to the hall above. The corners of the building in Parliament-street will be occupied by two large shops; and there will be eleven shops fronting Sheep-lane. The ground-plan includes a room capable of accommodating about 400 people. It will occupy the lower end of the building. The music-hall will occupy the whole of the upper story, with the exception of the space necessary for approaches, offices, and retiring-rooms. It will be about 140 feet long by 60 feet wide. It is calculated that in the body of the room and the galleries there will be accommodation to seat comfortably 2,500 people; and on extraordinary occasions as many as 3,000 will be enabled to find room.

*Liverpool*.—The new establishment of Messrs. Ingham & Morgan, of Scotland-road, covers an area of 368 square yards, having a frontage of 61 feet to Scotland-road. There are two principal entrances, and the whole extent of front is rendered attractive by plate-glass windows, mounted in mahogany panels. At the back part, and extending the full width of the shop, is a gallery; the access being had by a staircase. A row of iron columns support the gallery, the front of which is finished with an ornamental balustrade. The lower portion of the shop is appropriated for general drapery goods; the gallery being reserved for lighter articles, such as shawls, mantles, millinery, &c. The domestic departments are improved as well as the business portion of the establishment. The building was erected from designs by Mr. Culshaw, architect; the work being executed by Mr. Burroughs, builder, of this town, as the sole contractor.

## THAMES EMBANKMENT BILL, NORTH SIDE.

THE bill for embanking the north side of the Thames and forming a street from Blackfriars Bridge to Cannon-street and the Mansion House was read a second time in the Commons on Monday last; 116 voting for to 9 against. Mr. Cowper said that the estimated expenditure for carrying into effect the provisions of the bill was 1,500,000*l*. The amount was made up in the following manner:—500,000*l*. for the works, embankment, roadway, and new streets opening on to the embankment; 500,000*l*. for compensation to wharfingers, persons having frontage on the river, and others; and the remaining 500,000*l*. of the estimate was attributed to the total loss which was expected to arise in connexion with the new street to the Mansion House, the purchase of lands, &c. The length of the embankment would be 1 mile, 17 chains, and 90 links. The committee which sat in 1860 went very fully into the subject, but did not recommend any particular design. They received nine plans, and thought very highly of five of them, but they naturally felt they were not the body which could properly decide upon their relative merits.

Mr. Ayrton said Mr. Bunning, the City architect, placed the cost of the new street alone at 1,000,000*l*.

## METROPOLITAN BOARD OF WORKS.

### PROGRESS OF THE MAIN DRAINAGE WORKS.

AT the usual meeting of the board, Mr. Bazalgette presented a report of the progress of the Main Drainage Works, of which we give an abstract.

The continued and heavy rains during the past month have been very unfavourable for the execution of the works. The progress made by Mr. Furness upon the northern outfall contract has, nevertheless, been considerable; about 22,000*l*. worth of work having been executed under this contract since my last monthly report. The cutting through the Eastern Counties Railway embankment progresses slowly but safely, and the two outside permanent brick piers are now carried up to the requisite height for the support of the rails, which now rest upon temporary timbers. The contractors' line by the side of the permanent works has been extended on from Plaistow to the Stratford-road; and the concrete embankment has been thereby pushed forward between these points. The brickwork in the intercepting sewers and the foundation piers and arches through the marshes and peat subsoil have made considerable progress, and the total value of the work now executed is about 232,000*l*. The general character and management of this work is very creditable. The northern high sewer, which has been some time finished and in operation, continues to perform its duty satisfactorily. Messrs. Brassey & Co. have now completed about 25,300 feet of the middle level sewer; varying in size from 4 feet by 6 feet to 12 feet by 9 feet in diameter. They have also completed about half the sewer under the Regent's Canal; and there is every reason to expect that they will complete this difficult portion of their work without any further accident. They have moreover made good progress with the tunnel under Oxford-street, and are now preparing to leave this thoroughfare free during summer. The total value of the work done by them is about 116,000*l*. The weirs, overflows, and connexions at the junction of the Ranelagh storm overflow with the middle level sewer in the Uxbridge-road, progress slowly; but the works are of a very substantial character and amount to about 28,300*l*. in value. All obstructions have been removed from Hyde Park and Kensington Gardens, and the ground has been levelled and grass sown. On the southern high-level sewer Messrs. Lee & Bowles have constructed about 8½ miles of sewer, at an estimated cost of 154,000*l*. On the southern high-level sewer extension Mr. Pearson has constructed 1,035 feet of sewer, at an estimated cost of 1,536*l*. Mr. Webster will shortly complete the southern outfall sewer. It has been executed in a manner that has given general satisfaction in

the localities through which it passes. The total value of the work executed is about 284,000*l.* Messrs. Aird & Son have made fair progress with the Deptford pumping-station, together with the river-wall, coal-sheds, and other works in connexion therewith. This section amounts to 68,500*l.* in value. The progress of the Southwark new street is now more satisfactory.

## INSTITUTION OF CIVIL ENGINEERS.

ON March the 18th and 25th, Mr. Hawkshaw, president, in the chair, the paper read was "A Description of Works at the Ports of Swansea, Silloth, and Blyth," by Mr. James Abernethy.

The author gave an account of the past and present history of these ports, so far as they possessed engineering interest, and described the works connected with them.

The most important work connected with the port of Swansea was the range of floating-dock accommodation called the South Dock, which was formed on the foreshore of the sea beyond high-water mark. An Act was obtained, in 1847, for the construction of this dock, according to a design furnished by Mr. T. Page, M.I.C.E. In 1850, the author was requested to make the necessary plans for a trumpet-mouthed entrance basin, having an area of three acres; for a half-tide, or outer dock entrance, 70 feet in width, with a single pair of gates, and having a depth of water over the cill of 24 feet; for a half-tide basin, or outer dock, containing an area of four acres, with a depth over the cill of 25 feet 6 inches; for an entrance lock, 300 feet long and 60 feet wide, divided by intermediate gates so as to form a greater or a smaller lock, with an average depth over the inner cill of 22 feet 6 inches; and for a dock having an area of thirteen acres, with a depth of 24 feet. Considerable progress had been made with these works when they were suspended, in 1855, for want of funds. They were resumed in 1857, and were completed in 1859, at a total cost of 169,073*l.* One of the first operations was the formation of an embankment to exclude the sea. Careful observations showed that the main action of the sea and the set of the tides were to the eastward, towards the Mumbles headland. It was, therefore decided to construct a series of timber groynes, at intervals of 1,500 feet, extending from the shore to the line of the proposed embankment. Rough boulder gravel, found immediately under the sand and the made ground, was tipped between the seaward-ends of the groynes, until a shingle beach, of great depth, was gradually formed, which served as a face to the embankment, and proved an effective barrier to the encroachments of the sea. The centre of the embankment was composed of the clay and peat found in the excavations; so that something like a puddle dyke was formed; and very ordinary means were sufficient to keep down the accumulation of water within the works. When the sea embankment had advanced some distance, the masonry of the dock walls was proceeded with. These walls consisted of rubble, with coursed rubble facework to a height of 2 feet below the general level of the surface of the water in the dock. They were faced in the upper part with ashlar, projecting 3 inches beyond the rubble facework. They were backed with the lightest and driest material that could be procured, in layers forming an angle from the wall; and rubble drains, with pipes for carrying off any spring or upland waters were placed at intervals in the walls. In no instance had any failure taken place, although the walls were subjected to a severe test; inasmuch as they were nearly completed when the works were suspended; and on their resumption the dock and outer basin were found to have become filled with water.

## GYE'S GASOMETER'S AND TANKS.

MR. FREDERICK GYE, of the Royal Italian Opera, Covent Garden, has invented certain improvements in constructing gasometers and gasometer tanks. He constructs a gasometer tank in such a manner as to render available much of the central space of land now covered or occupied by the tank of a gasometer. The tank is made double at the outer circumference to receive the water or fluid employed, the interior space being left free for use when roofed or closed in air and gas tight. Instead of placing a gasholder tank on the surface or below the surface of the ground, Mr. Gye erects a circular wall of brickwork or a circular framework of iron or other suitable material. This circular erection may be perforated with arched or other openings of a height convenient to admit men or materials being carried through them. The breadth of this wall or erection is to be sufficient to admit of a double or ring gasholder tank being placed on its upper surface; the tank being of sufficient width to admit of the working therein of a single or double, that is, a telescope gasholder. The space extending from one side of the interior tank to the other is to be roofed over. There is then a covered circular apartment approached by the openings through the circular wall or structure below. The roof of this apartment may, if necessary, be conveniently supported by a central column with radiating struts (umbrella-like) or by a series of columns or otherwise. This invention is also applicable when constructing gasometers the tanks of which are built below the level of the surrounding ground, and for which an excavation has been made; only, in that case, it would be necessary to descend by an inclined plane, or other means, in order to enter the inclosed covered space under the gasometers. As the action of the wind might be found inconvenient, the outer ring of the tank may be made of a height equal, or nearly so, to the greatest height to which the outer gasholder will rise when completely filled with gas; and on the inside surface of this outer ring are placed either the wheels or the guide-rods necessary to the steady working of the holder.

## CHIMNEYS AND CHIMNEY SWEEPING.

I AM neither builder nor architect, but a friend to both; having laid out some thousands in building; and consequently become a sadder and a wiser man than I was when I began. I am, however, a householder; and agree with many of your correspondents in complaining of the misery of chimney-sweeping. The chimneys of the house I live in were built before machine-cleaning was imperative; and the flues go off at a considerable angle just above the fireplace; so that a machine won't do the work properly. So I sometimes have the machine, and sometimes a boy is smuggled in; not without some dread of the mayor hearing of it, and sometimes my double-barrel gun is fired up, to the great consternation of my womankind and the sparrows and starlings who frequent the housetops. But none of these means are effective: the machine drags, the boy is careless, and the gun does not remove the cake of soot.

Now, sir, being, as I said before, neither builder nor architect, I have often thought that these gentlemen must be in a conspiracy with those very unpleasant customers the chimney-sweepers, and do all they can to prevent housekeepers sweeping their own chimneys by the obvious means of a brush, put in at the top and worked up and down by Jeames (not in red plush) at the top, and Mollyduster, in double crinoline (one over her head), at the bottom. As to the soot, it would be Mollyduster's perquisite by way of *solatium*, or go to the dusthole; but in the country it is too valuable to be lost to the paddock or garden; and most of mine goes to the roots of the gooseberry and currant-trees; being almost a specific against the saw fly caterpillar.

But how is Jeames to get at the top of the chimneys? I am now looking at mine in dismay. They are of freestone, and thirty years' standing; consequently decayed; and I see no way of repair but by a scaffold.

They say there is no fool like an old fool; and I am actually talking sometimes of building another house for myself; and what I want to submit to your professional correspondents is this question: "*Why are chimneys so constructed as to be for all common purposes inaccessible from the outside, and dangerous to get at?*" And the same observation applies to the sloped roof, with a sheer descent, of common dwelling-houses.

Now what I propose to myself is a flat roof, with a parapet, catching all the rain-water, which would be led to the house-tanks and drains. Snow would not want moving; for I should put a row of horseshoe tiles, or some other similar contrivance, in the angle of the parapet, and so prevent the capillary attraction which brings snow-water through the slates of a house.

The flat roof will enable Jeames to reach the top of the chimneys. I propose also to have a small room, in the middle of the roof, which will be suitable for a view over the hills,—an observatory, or for smoking; and I am contemplating a contrivance by which the flues can be swept from the inside of this room.

Possibly this may elicit some observation from your numerous correspondents;—perhaps Mr. Jennings, as he is sanguine that a flue of the diameter of $3 \times 3 = 9$ will answer, because he has found one of $7 \times 7 = 49$ succeed. Allow me to submit to his consideration that a small flue is not essential to a sharp draught; and that, after all which has been written on the subject, no theory has ever beaten that of our Great Grandfather Telford; viz., a slow draught at bottom;—no contraction there; but the *inside* of the flue contracted at the top, in proportion to the size of the room below, and according to a scale he lays down.

If the roofs of barracks were flat, the soldiers could sweep the chimneys, and the item of 5,891*l.* for chimney sweeping be saved. H.

## LOCAL SURVEYORS AND THEIR REWARDS.

I AM obliged to the notice in the *Builder* of last week for the suggestion as to memorializing the Home Secretary on the subject of the Second Local Government Amendment Act now before Parliament; for I must confess I was not aware of a Second Amendment Act being before the House. I thought we had had enough of them; but am persuaded all local surveyors will heartily co-operate in any endeavour to have such clauses inserted in the present Bill as will not only rectify past omissions, but provide for future additional duties; and I think they must all be ready to testify to the extra duties imposed upon them by the Act of 1858 and Amendment Act of 1861, for which no remuneration has been provided.

Where the surveyors are not allowed private practice, a scale of fees, as in the metropolis, seems desirable.

Some immediate action should be taken; and I hope this may elicit the suggestions of other local surveyors as to the best mode of organizing a united action.

A LOCAL SURVEYOR.

## PAYING OUT THE ATLANTIC CABLE.

SINCE the Atlantic Telegraph enterprise is again revived, and will, in all probability, be once more attempted, I beg leave to draw attention to a circumstance connected with the laying of the first Atlantic Cable; which course, it is to be hoped, will not be repeated in the next. The point I particularly allude to is the lapping of the cable around drums, for the purpose of controlling its exit from the ship. The injurious consequences of such practice will be seen, when it is calculated how much the cable must stretch at one of its sides, in bending round a circular body; and, when thus made to undergo a succession of bends and stretches, may fairly be said to be "broken on the wheel." In this case, two drums (for want of more efficient means) were employed on board each vessel, and the cable put four times round them; the immediate effect of which was bending the cable *sixteen times* throughout every inch of its length, and compelling it to stretch no less than 12·3040 inches in every 75·3984 feet.

It should be borne in mind, that an insulated cable, made straight, cannot be subjected to inflections without changing the disposition of its particles; and allowing such change to take place is calculated to open pores therein, and forcibly destroy that perfect cohesion which it is so essentially necessary to preserve. Hence it follows, that an insulated cable ought not to be manipulated nor bent, but in the least possible degree.

If those gentlemen and engineers who are interested in the extension of electric telegraphy should be of this opinion, and require one, a *single sheave* shall be placed at their disposal, that with half a turn round it will give the requisite control; at once supply both the break and dynamometer; and pay out, *without stretching* (by machinery) the Atlantic Cable. GEO. JOHNSON.

## DECISIONS UNDER METROPOLITAN BUILDING ACT.

### WOODEN BUILDINGS.

ON Saturday, Messrs. Lee & Bowles, contractors for the Southern High-level Sewer, were summoned before Mr. Traill, at the Greenwich Police Court, by Mr. Whichcord, district surveyor of Deptford, for erecting a wooden building in the Broadway, and also another building in Church-street, both being constructed contrary to the requirements of the Metropolitan Building Act.

Mr. Whicheord, the district surveyor, stated that late on Friday evening he had received a communication from the Metropolitan Board of Works, stating that the Board had sanctioned the continuance of these irregular buildings for three months.

Summons adjourned for three months, and Messrs. Lee & Bowles to pay district surveyor's costs.

A number of persons were summoned for having erected wooden buildings, all being constructed contrary to the rules of the Metropolitan Building Act; and orders to amend or demolish were made in every case, except one, where the summons was adjourned for one month, pending the result of an application to the Metropolitan Board of Works for permission to retain the building. Costs in every case ordered to be paid by the party summoned.

## Books Received.

*An Account, with Illustrative Sketches, of Cranston's Patented Buildings, applied to Horticulture.* Birmingham.

THE main element in Mr. Cranston's system, set forth in this pamphlet, is a "light," with a perforated rail under one side of it, which he calls a radial rib; and a triangular or spandril piece under each end, running from the width of the rail to a point. With these each compartment is fixed at a different angle; so that curvilinear roofs of any contour are produced; and this with the use of straight instead of bent glass.

One of the simplest of these houses—a lean-to of the width of 7 feet, and formed with a short side to its roof, hanging over the top of a 6-feet wall—is thus described:—

"There are four compartments of rafters filled with glass, each 3½ feet long; three compartments towards the

front; and one facing over the wall the contrary way; and these divisions are separated by what has been called, to distinguish them clearly, 'radial ribs,' fixed edgeways, and running lengthways of the building under the lower ends of the bottom rafters, and between the top and bottom ends of all the others; each radial rib, in all cases, irrespective of the shape or size of the building in which it is, or any other consideration whatever, being perforated for ventilation, by small openings close to each other, from end to end; and having a valvular apparatus on the inside of it, for properly regulating the ingress and egress of air. To the bottom edge of each radial rib the upper ends of the rafters are secured; and upon the top side of it the feet of the rafters rest. The external aspect of a roof so framed presents to the eye a series of planes fitted with glass, divided vertically by small wood rafters, and horizontally by the radial ribs, also of wood, so fixed to make the top of one plane recede a few inches, that the lower end of the plane immediately above it might project and overhang. The radial ribs are themselves fixed to other timbers, put together in the shapes necessary to receive them; and which act as 'principals,' spanning the house internally at intervals of about 8 feet."

Mr. Cranston dwells on the importance of thorough ventilation; and this he gets by means of the perforations in the radial ribs; so that the more rafters and glass the more ventilation. Small flaps open and close these perforations.

The illustrations show that very tasteful designs can be carried out, under the system of which we have endeavoured to give a notion.

## VARIORUM.

"A Letter to the Right Hon. the Earl of Derby on the proposed Memorial to the Prince Consort" (Darton & Hodge, Holborn-hill, for the author) urges the association of sculptures with the (once) intended obelisk,—such sculptures, he remarks, as will simply and truthfully represent the man whose memory we desire to honour. The author suggests that the monolith "should be a majestic pile, rising from a basis formed with three gradients, thus affording twelve panels or surfaces for sculptures and inscriptions;" and on the lowest and largest he proposes a family sculpture of exact life-size, with portraits of the Prince, the Queen, and the royal family. In others he suggests the opening of the 1851 Exhibition, and a House of Lords scene; but he omits two or three which would be certainly no less characteristic of the Prince as a lover of art, science, and literature; and which might readily be indicated, respectively, and with significant adjuncts, in sculptures representing the Prince as President of the Society of Arts, President of the British Association, and Chancellor of the University of Cambridge. Inscriptions in many languages are also suggested by the author of the "Letter" under notice.——"Patent Rights; an Inquiry into their nature. By A. Percy Sinnett." (Ridgway, Piccadilly.) Mr. Sinnett proposes the substitution of a real for a nominal patent commission, and the occasional grant of patents free of cost to the inventor. By a real commission he means one made up of gentlemen well acquainted each with some great branch of science or invention, and able to distinguish good or promising inventions from useless or worse than useless ones, such as offer annoying hindrances and obstacles to really useful inventions; and that this commission should examine all applications for patents, and exercise something like discrimination in the grants of patents; but especially for behoof of poor inventors, so that these might be granted patents free of all cost; thus liberating many inventive geniuses from bondage to capitalists, and enabling them to reap the fruits themselves of their own ingenuity. The unappropriated surplus and profits of the Patent Office Mr. Sinnett would devote to the appointment and continuance of the new commission.

## Miscellanea.

THE GEORGE STEPHENSON MONUMENT. — We understand that the erection of the pedestal for the Stephenson Monument has been intrusted to Mr. Donkin, builder, Ponteland, and will be proceeded with immediately. The statues are now all cast, and will be completed in a short time. We are sorry to hear that the work will not form part of the forthcoming International Exhibition. Surely it would have been an interesting feature. It was offered as a whole.

STRATFORD AND WEST HAM.—The tender of Mr. Perry, of this place, builder, has been accepted for altering premises in Stratford Broadway for a branch bank for the London and County Banking Company. Mr. Dean is the architect. The front will be of white Suffolk malms, with Portland stone dressings.——The proposed new road from the Blue Boar court, Stratford, to Canning Town, according to the *Chelmsford Chronicle*, has already enhanced the value of land contiguous, for building sites, in the vicinity of the former place.

BRITISH MUSEUM.—The Museum will be closed on Monday, the 28th of April, and re-opened on the following Monday, the 5th of May. From that time to the 30th of August inclusive, the Readingroom will be kept open for readers, not later than five o'clock. The Museum collections will be kept open daily, Thursdays and Sundays excepted, from ten o'clock in the morning till eight in the evening, during the months of May, June, July, and to the 16th of August, inclusive; but till half-past seven only for the remainder of that month. During the same months and days the Reading-room, and a portion of the libraries will be open to the public from five to eight, or half-past seven, as before mentioned.

NUMEROUS STRIKES.—At the present time there are strikes going on in different parts of the country. The painters of Brighton have now been on strike for some days against the hour system, claiming 4s. 6d. per day of ten hours. About one-half of the employers in the town have conceded the terms; the others still refusing. About 100 men are on strike; receiving 12s. each per week. The South Yorkshire colliers in the Gildersome district, to the number of 700, have been on strike for the last month against a reduction of 10 per cent. on their wages. The bakers of Edinburgh are on strike for the abolition of night and Sunday work, and the reduction of the day's work from twelve to ten hours. More than one-half of the masters have conceded the terms. The masons of Dundee have been on strike for the last few weeks for a nine hours' day and nine hours' wages. A majority of the employers refuse the terms. There are 140 on strike; about fifty working for the employers who have given the nine hours; and about twenty work on the old terms.

THE NELSON MONUMENT, TRAFALGAR-SQUARE. On the motion for going into committee of supply, Admiral Walcott drew attention to the incomplete state in which the base of the Nelson monument is still suffered to remain. It was most discreditable, he remarked, to see, in the grand square of the capital, in the great thoroughfare leading to the wealth of the metropolis and the chambers of the Legislature, an incomplete memorial of one of our greatest naval heroes and admirals. He hoped the House would join him in calling on the Government no longer to permit delay to exist in the matter, but at once to insist on the monument being completed. Mr. Cowper, in reply, said he greatly deplored that the monument had not been long ago completed. In 1858 Sir Edwin Landseer had been intrusted with it. But genius was not always to be commanded; and he had not been able to satisfy himself as to the works of art suitable for this monument, nor to name a time when these lions would be completed. All that he (Mr. Cowper) knew was, that Sir Edwin Landseer had been constantly studying the habits of lions, and regularly visiting the Zoological Gardens for that purpose. Surely it is quite time that Sir Edwin should be called on to complete what he has undertaken.

CAPTAIN COWPER COLES'S CUPOLA SHIPS AND ERICSSON'S "MONITOR."—In a long letter to the *Times*, Captain Cowper P. Coles, of the Royal Navy, shows his claim to be regarded as the true inventor of the form of iron ship which is exciting so much attention, both in America and in this country. Captain Coles sends to the *Times* drawings of the *Monitor*, and of a vessel proposed by him, to the Admiralty, in 1855; and says:—"It will be seen that my first vessel, proposed as above stated in 1855, was on the same principle as the *Monitor*; having a double bottom; light draught of water, with a power of giving an increased immersion when under fire; sharp at both ends; a formidable prow; her *rudder* and screw protected (a most important point) by a projection of iron; the only difference being that the tower is hemispherical instead of cylindrical, and was not on a turntable; she being designed for the purpose of attacking stationary forts in the Baltic and Black Sea; when a part would have admitted of sufficient training from the vessel itself turning with great rapidity, and so that the expense and complication of the turn-table became unnecessary. (See report sent from Black Sea, 1855, and the *Times*, November 20, 1855.) A rough model, made by the carpenter of the *Stromboli*, is to be seen in the United Service Institution." It would, therefore, appear that Captain Ericsson, having been so unsuccessful with all his own peculiar inventions as he has been, now seeks celebrity by appropriating the inventions of others. Whether, as he boasts, this new invention of *his* be about to put an end to England's empire on the ocean remains to be seen. Several vessels on Captain Coles's principle are now about to be prepared for our own navy.

MAJOLICA CHIMNEY-PIECE.—We are asked to say that the stonework of Messrs. Maw's chimney-piece, engraved in the *Builder* of the 29th ult., was executed by Mr. R. Yates, of Shiffnal.

PRIZES TO WORKING MEN. — Mr. George Robert Stephenson, the present head of the engineering establishment at Newcastle, has just inaugurated a new feature in the educational movement. Being the owner of a marine residence at Cowes, Isle of Wight, Mr. Stephenson some time ago offered a number of prizes, amounting altogether to 100*l*., to the working men of that neighbourhood most proficient in reading, writing, and arithmetic. A large number of candidates entered the list; and, due examination having been made, the prizes were recently distributed before a crowded public meeting, at the Sailors' and Working Men's Reading-room, Cowes.

PUBLIC BUILDINGS.—Mr. B. Cochrane has given notice that he will on April 29th move for a Royal Commission to inquire into the state of public buildings erected by Parliamentary grant during the last twenty years; as well as of houses rented for the public service; and to ascertain whether, if a more comprehensive plan of building were adopted, greater public convenience, economy, and unity of design might be attained.——Mr. Dillwyn has also given notice that he will, on the same day, move a resolution to the effect that, in the opinion of the House, it is desirable that in all cases of the erection of works, fortifications, and public buildings, distinct from those already existing or sanctioned by Parliament, the estimate of such new works should be submitted to the House in a separate form from the annual estimates for current expenditure.

STONE-CUTTING BY MACHINERY.—Mr. Hunter, of Dean Forest, has invented a machine for cutting stones. The *Arbroath Guide*, in speaking of this machine, which is now in process of completion by Messrs. Munro, of Arbroath, founders and engineers, says;—"Mr. Hunter, formerly of Leysmill, and now of Dean Forest, in Wales; the inventor of the stone-planing and patent ridge-dressing machines; has invented another, so elaborate in its motions that it will perform with speed, accuracy, and regularity of finish, nearly the whole of the masonwork, hewing, dressing, &c., now executed by hand previous to the operation of building. It will plane, dress, and polish stones; work out checked rabbets and window-sills; and do almost everything appertaining to plain masonry; giving to ashlar work an ornamentation quite unique. This machine is an amplification and completion of the inventor's idea that seven years ago found expression in the ridge-dressing machine which was then patented. From the appearance of the machine, and the thorough success of the ridge-dresser, there is no reason to doubt that an equal success will attend this new invention. We understand that at a meeting of the master builders, held yesterday, in Dundee, where a masons' strike exists, it was resolved that they should visit and inspect the machine (which is now patented), with the view of considering the propriety of purchasing one for their joint use."

NEWCASTLE SCHOOL OF ART.—The annual meeting of this school has just been held, under the presidency of Viscount Ingestre, M.P. The school has been successfully conducted during the past year; the efficiency of the master (Mr. Bacon) and the perseverance of the students being manifested by the drawings executed within that period; and which formed an attractive feature in the proceedings of the evening. There was a numerous attendance at the anniversary; including many influential residents of the town and neighbourhood; and the proceedings were of an animated character. The report of the committee stated that the number of persons who, during the past year, had been taught drawing through the instrumentality of the school, had been 439; being an increase of nine on the previous year. The inspector, Mr. Eyre Crowe, has visited the school during the last month, and awarded seven medals and one honourable mention: only seventeen works were in competition. Fewer works were in competition, but the paucity of the medals is attributed to the fact that some of the advanced students have left the town. The committee regretted that the ceiling and roof of the rooms used by the schools were in such a bad state of repair as to interfere considerably with the efficiency thereof. It was much to be wished that some united effort could be made for the purpose of raising funds to put a new roof on the entire building; or, in conjunction with the Literary and Scientific Institution, to make the building, and the purposes to which the same is devoted, more useful or more socially suitable to the advanced spirit of the times.

HOLLOW WALLS.—A correspondent, H. McC. writes:—"I have seen in the country cottages with hollow walls, nine inches thick, built with common bricks *on edge*, Flemish Bond; thus leaving a space three inches wide, which I think superior to the 10-inch wall with 1-inch tile closers, mentioned by your correspondent, W. B." Walls so formed are not uncommon; but have a very ugly aspect.

COPING.—Sir: Will some of your learned readers assist me in regard to coping for rubble stone walls. I live in a district where stone is plentiful; yet, with stone given gratis, I am charged 2s. a yard for coping 16 inches wide Our other charges are for rubble walling, per rood, quarrying, 5s.; walling, 5s. 6d. (sand, leading, and time found by proprietor). I may add, also, scaffolding with close joints are 5s. per rood extra. For a park wall, for instance, 2s. a yard for coping (say 5,000 yards) becomes a heavy sum. X. Y.

CONSECRATION OF A NEW CHURCH AT ST. HELENA.—Overhanging the valley in which Napoleon vegetated for nearly twenty years; on a hilly plot of ground; a ceremony of more than ordinary interest to the inhabitants of St. Helena took place on the 24th of February; viz., the consecration of St. Matthew's Church, Longwood, St. Helena. At the suggestion of Bishop Claughton, according to the *Northampton Herald*, it was determined, a church being much required, to send to England for an iron building; and within ten months from the order being given the church was open for divine service.

MR. PEABODY'S BENEFACTION.—In the Court of Common Council, Mr. Charles Reed has given notice of motion,—"That the honorary freedom of this city, in a gold box of the value of 100 guineas, be presented to George Peabody, esq., an American citizen, in grateful recognition of the princely munificence displayed by him in devoting the sum of 150,000*l.* towards the relief of the needy and deserving poor of this metropolis, and of the Christian liberality of sentiment which dictated that the funds thus created should be administered irrespective of the distinctions of nationality, party, or religious belief." It is to be hoped the terms of the trust have been altered.

SANITARY CONDITION OF LIVERPOOL.—The annual report of the medical officers of the borough has been made to the local Health Committee of the corporation. From this report it appears that the deaths in the parish for the past year were 8,680, and in the out townships 4,253; giving for the former the very heavy death-rate of 31·9; for the latter, 24·2; and for the borough, 28·8 per 100. This is still a sad contrast to the 16 or 17 per 100 of our healthiest localities; and even to the metropolitan average. The deaths registered in Liverpool during the fifty-two weeks ending the 28th December, were 12,933, being 1,697 more than in the previous year, and about 600 less than the average of the preceding ten years, corrected for increase of population. "The mortality was about equal to the average of the five preceding years; but, as compared with the mean of the ten years 1851-60, there was a saving of about 600 lives; and, as compared with that of the ten years preceding the Sanitary Act, the returns show that not less than 1,650 lives were saved last year in Liverpool." And yet, what a multitude of additional lives could be saved were Liverpool even only as comparatively healthy as London. "The excess of 1,697 deaths over those of the previous year is furnished almost exclusively by three classes of diseases; viz., zymotics, showing an excess of 1,017, inflammatory affections of the lungs, 350, and diseases of the nervous system (chiefly infantile convulsions), 231. The remaining diseases, with one or two exceptions, showed little variation in the two years." Intemperance was assigned as the direct cause of death in 57 cases, including 20 of delirium tremens. This shows a ratio to population more than double that of London, and 73 per cent. more than that of even the eight principal towns of Scotland,—Glasgow, Edinburgh, Dundee, Aberdeen, Paisley, Greenock, Leith, and Perth, some of which have been so notorious for drunkenness. "The death-rates (per 10,000) were as under, viz.:—Vauxhall Ward, 351; Exchange Ward, 316; Scotland Ward, 308; St. Paul's Ward, 303; St. Anne's Ward, 301; South Toxteth Ward, 296; Pitt-street Ward, 270; Great George Ward, 264; North Toxteth Ward, 236; Castle-street Ward, 233; Everton and Kirkdale, 221 (Everton, 228, Kirkdale, 200); Lime-street Ward, 217; Abercromby Ward, 216; West Derby Ward, 201; Rodney-street Ward, 197; St. Peter's Ward, 188.

PONDS.—Sir: Can your readers kindly put me up to a "wrinkle" or two in regard to the making of ponds.—A REGULAR SUBSCRIBER.

DISCOVERY OF ANCIENT CITY IN CENTRAL AMERICA.—It is reported from Guatemala that the ruins of an immense city have just been discovered there, containing a very large number of fine specimens of sculpture.

BATH SURVEYOR OF WORKS.—At a meeting of the corporation of Bath, held April 8th, to elect a surveyor of works (architect) in the room of Mr. Manners, resigned; Mr. Charles E. Davis was elected by a majority of two votes over the other candidates. The applicants were Mr. Gill, late partner to Mr. Manners, Mr. C. J. Phipps, and Mr. Hicks.

NO "WAITING FOR THE WAGGON."—A first-class covered goods waggon has been made at the works of Mr. Ashbury, at Openshaw, near Manchester, in 11 hours and 20 minutes; not simply put together, but wrought out of the raw materials of timber and pig-iron. The next day it was in its place in the International Exhibition. For this remarkable piece of waggon rearing, its builders must take their place in the van.

PATENT "OZONE LIGHT."—This latest improvement in the combustion of air for illuminating purposes, says the *Manchester Courier*, has just been tried at the Victoria Station. The invention is patented by Messrs. Trachsel & Clayton, engineers, Ardwick. A first-class carriage was darkened and then lighted with the brilliancy of gas by the new flame, which burned in the usual lamp. Its advantages are that it cannot explode and shows colours as in daylight. The light is very mild and steady even when the carriage is in motion. The light is evolved from air passing through certain chemicals. It is not dearer than gas, and is much more portable.

LIVERPOOL ARCHITECTURAL SOCIETY.—The thirteenth meeting of the present session of this society was held last week; Mr. J. M. Hay in the chair. The secretary, Mr. W. H. Picton, announced the receipt of several donations. The paper for the evening was by Mr. Frank Howard, "On Decoration in Architecture;" in which he insisted upon perfect flatness in architectural decoration, and that all the figures should be upon one plane. He called upon architects to insist upon their own boundaries, and leave the decorators to do their parts. In the course of the discussion which followed the reading of the paper, the chairman observed that the boundaries left by the architect in his work should be always respected by the artist, whether decorator or sculptor. A discussion ensued, and thanks were awarded to Mr. Howard.

TELEGRAPHIC PROGRESS.—The Electric and International Telegraph Company's new submarine cable, for connecting England with the south of Ireland, has, it is reported, been successfully laid between the coasts of Pembroke and Wexford. The cable, manufactured by Glass, Elliott, & Co., is sixty-three miles in length; contains four conducting wires, insulated with gutta-percha and other materials on the latest methods; and is protected by twelve heavy iron strands; the total weight being 6½ tons per mile. The novelty introduced in the manufacture has been the coating of the entire cable with a composition (Bright and Clark's patent) for the purpose of protecting the iron from corrosion and decay. The Electric Telegraph Company purpose using the same composition in the cable to be shortly laid between England and Holland.——A late Boston (U.S.) paper says an appropriation of 100,000 dollars and two small vessels will be asked for in Congress for the purpose of instituting a survey, in conjunction with other nations, of a telegraph line from San Francisco to the north-west coast, overland; *viâ* Behring's Straits and Asiatic Russia; to the mouth of the Amoor river, as proposed by McDonald Collins. The scheme is to connect the American system of telegraphs, from a point in Missouri, with the line now being constructed from Kenzan to the Amoor. When finished, the line will bring into telegraphic union the whole European and American systems, and belt the world.

## TENDERS.

For additional show-rooms, workshops, and alteration of premises, in Bedford and East Streets, Plymouth, for Messrs. Plimsaul, Brothers, ironmongers, &c. Mr. Wm. Henry Reid, architect:—

| | | | |
|---|---|---|---|
| Lethbridge | £3,087 | 0 | 0 |
| Finch | 2,812 | 0 | 0 |
| Matcham (accepted) | 2,784 | 0 | 0 |

For a house, at Barnet. Mr. George Truefitt, architect. Quantities supplied:—

| | | | |
|---|---|---|---|
| Hill, Keddel, & Robinson | £4,987 | 0 | 0 |
| Browne & Robinson | 4,694 | 0 | 0 |
| Longmire & Burge | 4,589 | 0 | 0 |
| Patrick (accepted) | 4,479 | 0 | 0 |

For the erection of four shops and houses, at Wimbledon, for Mr. J. R. Andrews. Mr. Charles R. Gribble, architect:—

| | | | |
|---|---|---|---|
| Patman | £2,783 | 0 | 0 |
| Crouch | 2,765 | 0 | 0 |
| Myers | 2,746 | 0 | 0 |
| Downs | 2,644 | 0 | 0 |
| Nicholson | 2,590 | 0 | 0 |
| Aviss | 2,365 | 0 | 0 |
| Adamson (accepted) | 2,299 | 0 | 0 |

For stabling, greenhouse, and other works, at Southfields, Wandsworth, for Mr. G. Russell. Mr. Charles R. Gribble, architect:—

| | | | |
|---|---|---|---|
| Aviss & Sons | 513 | 0 | 0 |
| Adamson | 490 | 0 | 0 |
| Aviss | 467 | 0 | 0 |
| Strong (accepted) | 463 | 0 | 0 |

For sundry alterations and repairs at 316, Regent-street, for the British Nation Assurance Company. Mr. H. E. Coe, architect:—

| | | | |
|---|---|---|---|
| Bracher & Son | £995 | 0 | 0 |
| Keys & Head | 978 | 0 | 0 |
| Hill & Co. | 941 | 0 | 0 |
| Jackson & Shaw (accepted) | 850 | 0 | 0 |

For four dwelling-houses, in Virginia-road, Leeds, for Mr. Nussey. Mr. Corson, architect. Accepted tenders:—

| | | | |
|---|---|---|---|
| *Digger, Bricklayer, and Mason.* | | | |
| Whiteley | £1,235 | 0 | 0 |
| *Carpenter and Joiner.* | | | |
| Nicholson & Son | 720 | 0 | 0 |
| *Slater.* | | | |
| Ellis | 97 | 0 | 0 |
| *Plumber and Glazier.* | | | |
| Bedford | 155 | 0 | 0 |
| *Plasterer.* | | | |
| Branton | 155 | 10 | 0 |
| *Smith and Bell-hanger.* | | | |
| Singleton & Tennant | 70 | 8 | 6 |
| *Painter.* | | | |
| Wood & Son | 45 | 0 | 0 |

For dwelling-house, in Clarendon-road, Leeds, for the Rev. T. Hincks. Mr. Corson, architect:—

| | | | |
|---|---|---|---|
| *For Digger, Bricklayer, Mason, Slater, and Plasterer's Work.* | | | |
| Woolley & Son (accepted) | £465 | 0 | 0 |
| *For Carpenter and Joiner, Plumber and Glazier, and Painter.* | | | |
| Britton | 367 | 1 | 0 |

For building Park Church, Highbury, for the Rev. J. Edmond, D.D. Mr. Edward Habershon, architect. Quantities furnished:—

| | | | |
|---|---|---|---|
| Higgs | £7,936 | 0 | 0 |
| Mansfield & Son | 7,725 | 0 | 0 |
| Pritchard & Son | 7,720 | 0 | 0 |
| Patman & Fotheringham | 7,650 | 0 | 0 |
| Rowe | 6,964 | 0 | 0 |
| Brass | 6,853 | 0 | 0 |
| Piper & Wheeler | 6,795 | 0 | 0 |
| Matthews | 6,780 | 0 | 0 |
| Downs | 6,730 | 0 | 0 |
| Sawyer | 6,386 | 0 | 0 |

For Houses in Margaret-street, Oxford-street. Messrs. Poland & Dobson, architects:—

| | | | |
|---|---|---|---|
| Hill & Co. | £2,307 | 0 | 0 |
| Myers & Sons | 2,220 | 0 | 0 |
| Keys & Head | 2,188 | 0 | 0 |
| Longmire & Burge | 2,095 | 0 | 0 |
| Patman & Fotheringham | 2,016 | 0 | 0 |
| Macey | 1,927 | 0 | 0 |

For additions and alterations to Ilford Hall, Essex. Mr. Bartleet, architect:—

| | | | |
|---|---|---|---|
| *General Work.* | | | |
| Condor | £1,570 | 0 | 0 |
| Browne & Robinson | 1,550 | 0 | 0 |
| *Painter's Work.* | | | |
| Horne | 485 | 0 | 0 |
| Pickering & Son | 467 | 0 | 0 |

For erecting and completely finishing four houses, at Eglinton-road, Plumstead, Kent, for Mr. John Trodd. Mr. William Gosling, architect:—

| | | | |
|---|---|---|---|
| Richards | £1,849 | 0 | 0 |
| Sutton | 1,780 | 0 | 0 |
| Bemister | 1,575 | 0 | 0 |
| Ledbetter | 1,475 | 0 | 0 |
| Lonergan | 1,380 | 0 | 0 |
| Smith | 1,263 | 0 | 0 |
| Bailey | 1,220 | 0 | 0 |

For additions and alterations to the Ordnance Arms, Enfield Lock, Middlesex, for Mr. W. M. Creed. Mr. William Gosling, architect:—

| | | | |
|---|---|---|---|
| Cook | £337 | 0 | 0 |
| Bentley | 315 | 0 | 0 |
| Goffe | 269 | 0 | 0 |

For erecting new congregational chapel, Baxter-road, Islington. Mr. William Smith, architect:—

| | | | |
|---|---|---|---|
| Dove, Brothers (accepted) | £3,550 | 0 | 0 |

For the erection of a furnace, shaft, and forming flue &c., to boilers, at the workhouse, in Charles-street, Mile-end New Town, Whitechapel Union. Mr. G. H. Simmonds, architect:—

| | | | |
|---|---|---|---|
| Mundy | £310 | 0 | 0 |
| Pritchard & Son | 286 | 0 | 0 |
| Messrs. Jacobs | 278 | 0 | 0 |

For a semi-detached house, at Bow. Mr. R. W. Giblets, architect:—

| | | | |
|---|---|---|---|
| Greenwood | £250 | 0 | 0 |
| Ashton | 247 | 0 | 0 |
| Banister | 246 | 0 | 0 |
| Marshall | 234 | 0 | 0 |
| Messrs. Bond | 214 | 11 | 0 |
| Hearle | 195 | 0 | 0 |
| Ewett (accepted) | 185 | 0 | 0 |
| Welch | 155 | 10 | 0 |
| Hope | 148 | 15 | 0 |